

GLEANINGS  
IN  
NATURAL HISTORY:  
A SIMPLE INTRODUCTION  
TO THE  
STUDY OF ANIMATED NATURE.

---

FOR THE PUPILS OF THE URSULINE CONVENT.

---

By a Member of the Community.

A. M. P. G.



QUEBEC:  
PRINTED BY C. DARVEAU,  
8, Mountain Hill.

1871.

F5013  
1871

6558

*The* EDITH *and* LORNE PIERCE  
COLLECTION *of* CANADIANA



*Queen's University at Kingston*

13 etc.

20

8

Commissariat

1776

GLEANINGS

IN

NATURAL HISTORY.



GLEANINGS  
IN  
NATURAL HISTORY:  
OR,  
A SIMPLE INTRODUCTION  
TO THE  
STUDY OF ANIMATED NATURE.  
(ZOOLOGY.)

---

FOR THE PUPILS OF THE LITERATURE COURSE.

---

A. M. D. G.

---

URSULINE CONVENT, QUEBEC.



QUEBEC:  
PRINTED BY C. DARVEAU,  
8, Mountain Hill.

---

1871.



A. M. D. G.

---

GLEANINGS

IN

NATURAL HISTORY.

---

PART FIRST.

(*Vertebrates*).

---

ZOOLOGY

As a Branch of Natural History.

(**Natural History** is the science which treats of all that is in nature ; it comprehends particularly the description and classification of animals, vegetables, and minerals,—which it is customary to designate as the Animal Kingdom, the Vegetable Kingdom, and the Mineral Kingdom.

That branch of Natural History which treats of animals, or the Animal Kingdom, is termed ZOOLOGY.

The **Animal Kingdom** embraces all organized beings, endowed with sensation and voluntary motion, beginning with man, who forms the highest link in the

chain of existence, and descending to the plant-like zoophyte, on the confines of the Vegetable world.)

**Zoology**, opening the wonders of animated nature to the youthful mind, classifies the countless multitudes of living beings that inhabit the earth, the waters, and the atmosphere; it examines their structure, habits, localities, their varied instincts and dispositions, convincing us at every step, of the wonderful goodness, wisdom, and providence of the Almighty Creator:—constantly reminding us that nothing has been left undone, even to the minutest detail, which could in any way advance the welfare and comfort of living existences, taken as a whole.

#### DIVISIONS OF THE ANIMAL KINGDOM.

According to the great French naturalist, Cuvier, the Animal Kingdom is primarily divided into four great Branches, each distinguished by some marked peculiarity of structure.

These **Branches** or divisions are,—1. **Vertebrata** (back-boned animals); 2. **Mollusca** (soft-bodied animals); 3. **Articulata** (jointed animals); 4. **Radiata** (rayed animals).

The **Vertebrata** [Fr. *Vertebrés*] include a large proportion of those animals with which we are most familiar, and are subdivided into Four Classes:—**Mammalia** (animals that nourish their young with milk); **Aves**, (birds); **Reptilia** (reptiles); and **Pisces** (fishes). Each of these Classes is again subdivided into Orders; the Orders into Families, the Families into Genera and Species.

The animals comprised in the Branch of **Vertebrata** vary much in their forms and instincts; but all agree in possessing an internal skeleton, covered by the muscles, fibres, flesh, and skin; they have all a muscular heart, and red blood; distinct organs of vision, smell and taste, situated in cavities in the head; and never more than four limbs.

## SUBDIVISIONS

OF

### CLASS I. MAMMALIA. [*Mammifères*.]

This class contains about 2,000 species, forming nine Orders. The characters of the Orders are taken from differences in the various combinations of the teeth, and the structure of the hands and feet; as from these the nature of the animal's food, its habits, and instincts may be best determined.

The Orders are named as follows:—Bimana—[*Bimanes*]; Quadrumana—[*Quadrumanes*]; Carnaria—[*Carnassiers*]; Marsupialia—[*Marsupiaux*]; Rodentia—[*Rongeurs*]; Edentata—[*Edentés*]; Pachydermata—[*Pachydermes*]; Ruminantia—[*Ruminants*]; Cetacea—[*Cetacés*.]

#### ORDER I. BIMANA.—Two-handed.

This Order contains only one genus and one species,—Man.

Differences of climate, food, occupations, or other causes, have induced certain and constant differences of stature, physiognomy, color, nature of the hair, or form of the skull, which have given rise to the subdivision of the human family into three varieties or races, which are, the Caucasian, Mongolian, and Ethiopian. The Malayan and American, which are sometimes added, may be regarded as subordinate races, derived from the Mongolian.

The Caucasian race occupies Europe, (except Lapland and Finland) Southwestern Asia, Northern Africa, Ireiland, Canada, the U. States, and is largely intermingled in the populations of Mexico and S. America. The Caucasians are more beautiful in person and exhibit higher intelligence than any other race.

The Mongolian race embraces the inhabitants of Central, Eastern and Northern Asia, the Laplanders and Finlanders in Europe, and the Esquimaux of Greenland and N. America. The Mongolians are shrewd, crafty, insincere, obstinate, cruel to vanquished foes, and contented with a stationary civilization.

The Ethiopian race embraces the inhabitants of Africa south of the Tropic of Cancer, together with their descendants in the U. S. They

are dark-skinned, strongly built, patient of wrong, and capable of enduring long and protracted labor under a burning sun, in marshy districts, where others races would sink under disease.

The Malayan race, inhabiting Madagascar and a part of the Pacific Islands, are mostly treacherous, ferocious, and implacable; addicted to cannibalism and piracy.

The American race includes all the aboriginal inhabitants of America, except the Esquimaux. They are active, but not capable of long-continued hard labor, nor have they, as a people, ever made much progress in the arts of civilized life.

## STRUCTURE OF THE HUMAN BODY.

The human frame is the most perfect, the most complicated and wonderful machine it is possible to imagine.

It is made up of an internal skeleton, every bone and joint of which is most admirably adapted to the end for which it is designed: Muscles and tendons cover this frame-work, and are the instruments by which it is made to move; while from the centre, the heart sends a vivifying fluid to every part of the body through its double system of blood-vessels, the arteries and veins. From the brain another system of nerves issue, pervading every department of this habitation of the soul, ready to carry her mandates to the muscles, and to enable her to communicate with the external world by means of the five senses.

The skeleton or frame-work in the human body consists of 249 bones, of which 67 form the trunk; 60 the head and throat; 62 the arms, hands, and fingers; 80 the lower limbs.

The sense of feeling is spread over the whole body; that of taste resides in the tongue and mouth. The olfactory nerve, which gives us the sense of smell, resides in the nostrils. The organ of hearing consists mainly in the membrane called the drum of the ear, and an intricate internal cavity in which is placed the auditory nerve.

The sense of sight resides in the eye, which is the most perfect of optical instruments. The form of the human eye is nearly globular, with a slight projection in front. It consists of four coats or membranes, viz: the sclerotic, the cornea, the choroid, and the retina. It has two fluids confined within these membranes, called the aqueous and vitreous humors; and one lens called the crystalline.

The sclerotic coat is the outer and strongest membrane; its anterior part is well known as the white of the eye.

The cornea is the transparent membrane in front of the eye, set in

the sclerotic like a watch-glass ;—it is the part through which we see. The choroid in the human eye is nearly black. It is a thin membrane lining the sclerotic, while on the inside of this, lies the retina, which is an expansion of the optic nerve and the immediate seat of vision. The iris is a thin membrane, seen through the cornea, of different colors in different persons : through the iris is a circular opening called the pupil, which expands or enlarges when the light is faint, and contracts when it is too strong. Behind the pupil is the crystalline lens, a firm and perfectly transparent body, through which the rays of light pass from the pupil to the retina.

## ORDER II. QUADRUMANA—Four-handed.

The animals of this Order, have their four extremities hand-like ; they can stand and even walk somewhat erect, but this position is not natural to them. Their structure fits them better for climbing, and they appear to have been designed to live chiefly among the branches of trees. The tropical regions of the earth are mostly the home of the Monkeys. None are found in Australia, and—it need not be added—none in Canada.

The **Orang-Outang** [*Orang-Outang* ;—*Homme des bois*] is nearly as tall as a man. The Gorilla of Western Africa is six feet in height ; it is the most ferocious and formidable of all the apes. The Chimpanzees [*Chimpanzés*] of Guinea in Western Africa live in troops, construct tents of leaves and branches, and protect themselves from the attacks of other creatures with clubs and stones.

The **Baboons** [*Babouins, Mandrilles*], characterized by a dog-like muzzle, live in Africa and the Philippine Islands ; they are large and dangerous animals. The Monkeys of the New World, of which there are ninety different species, are smaller and less ferocious than those of the Eastern Hemisphere.

## ORDER III. CARNARIA :—

Quadrupeds, having teeth fitted for tearing and devouring flesh.

This Order embraces three sub-Orders :—

1. **Cheiroptera**,—HAND-WINGED, [*Chéiroptères*] comprehends the various kinds of BATS and VAMPIRES.

The distinguishing characteristic of these animals consists in a fold of skin which, extending between the four members and the fingers of the anterior extremities, enables the animal to fly as well as a bird. The eyes are excessively small, the ears large, the thumbs short and armed with sharp, hooked claws. Bats are nocturnal in their habits, and during the day remain in caves, hollow trees, or other dark places, suspended by their hooks or by the nails of their hind feet. In cold regions they pass the winter in a state of lethargy.

The largest of the Bat kind is the Black Rousette of the Straits of Sunda and the Moluccas; it measures nearly four feet with its wings extended. Its loud cry resembles that of the goose.

The **Vampire** belongs to Africa, where it is dreaded as being capable of inflicting severe wounds upon men and animals in order to suck their blood.

The common Bat, [*Vespertilio subulatus*—*Vespertilion*—*Chauve Souris*] is not rare in Canada, and is found in all parts of the world. The Red Bat so called from its color; the Hoary or Gray Bat; the Silver-haired Bat, which is black with a whitish collar across the shoulders, with three or four other species of the common Bat belong to N. America. The rapid flight of these winged animals and their curious turnings, observable in early evening, are for the purpose of capturing insects, of which they devour large numbers.

2. **Insectivora**,—INSECT-EATERS, [*Insectivores*] are, like the Bats, mostly nocturnal in their habits, and remain torpid during winter. The Mole, the Shrew, little animals resembling mice, are found nearly all over the world, each country having its characteristic genus or genera. The Star-nosed Mole,—[*Condylura cristata*,—*Condylure étoilé*] and the Little Shrew, [*Sorex parvus*,—*Petite Musaraigne*] are common in Canada.

3. **Carnivora**,—FLESH-EATERS, [*Carnivores*] includes seven families:—the CAT (*Felidæ*), —HYENA

(Hyenadæ),—DOG (Canidæ),—CIVET, WEASEL, BEAR, (Ursidæ),—SEAL (Phocidæ). The group termed the FELINE, includes the Lion, the Tiger, the Leopard, the Lynx, the Cat and several other sanguinary and formidable animals. Their frame is vigorous but agile; the limbs are short, the teeth and claws excessively sharp; the latter are concealed in a sheath while the animal is walking or at rest, but are instantly thrust forth when occasion requires their use. Their foot-fall is silent, these animals being provided with elastic pads on the ball of the foot and under each toe.

Their sense of sight is very acute; the eyes are placed obliquely and glare in the dark, or even in the day, when the animal is enraged. The long bristles called whiskers, on each side of the mouth, are very important organs of feeling, and communicate to the animal the impression of the slightest touch of any obstacle which may present itself.

The Lion is limited to Africa and certain parts of Asia.

The habits and manners of the King of the forest, have been so often detailed by travellers that no one can be ignorant of its strength, daring and ferocity. To carry off a man is no feat of difficulty to this powerful brute. In India, the Lion, instead of retreating on the hunter's approach, stands his ground or rushes to meet him open-mouthed on the plain. Lions are thus easily shot; but if they be missed or only slightly wounded, they prove very formidable.

In the defence of her cubs the lioness is resolute in the extreme, and is doubly savage the time they remain under her care. The lion attains its maturity about the fifth year, but its term of life extends to perhaps more than a hundred years.

Excepting in the vast wilds of central Africa, the Lion is much more rare at the present day than it was formerly. The ancient Romans procured incredible numbers for the arena. Sylla brought a hundred males at once into the combat; Pompey gave six hundred; nor was it until the time of the later emperors that any difficulty in procuring them began to be experienced.

The Tiger is equal in size to the Lion, but of a more elongated form, and pre-eminently graceful. In some districts of India and Sumatra, its ravages are frightful and the infatuated natives, it is said, seldom attempt their destruction, having the belief that they are animated by the souls of their ancestors.

The **Canine Race** [*Fam. des chiens*] includes the Dog, the Wolf, and the Fox, represented in Canada, by the common House-Dog (*chien*), three species of Wolf (*lupus*,—*loup*), three or four species of Fox, the most common being the Cross Fox (*Renard fauve*).

The **Weasel Tribe** [*Mustelidæ*] comprises Martens [*Martes*], — Sables [*M. Zibellines*], — Minks [*Hermiones*, *belettes*], — Otters [*Loutres*], and other slender-bodied animals, some of them yielding furs of great value. These are the animals (with the Beaver) formerly so eagerly pursued by the hunters in Canada as a source of riches; they are now comparatively rare.

The **Bear Family** [*Ursidæ*—*Ours*] includes the Raccoon—[*Raton*]. The Panda,—(*Ailurus*) a native of India, resembles the Raccoon in many points, but forms another genus; it is said to be the most beautiful of quadrupeds. It is about the size of a cat, the fur above being soft, of a brilliant cinnamon-red; its head, white, its tail marked with brown rings: beneath, it is black.

The **Seal Family**—[*Phocidæ*—*Phoques*] includes amphibious animals; such are the various kinds of seals, the Walrus or Morse, [*Cheval-marin*] which is of the size of a large ox and attains the length of twenty feet. When attacked, it is fierce and readily smashes a boat with its tusks or upsets it. The Sea-Lion, of the Pacific, is about the same size as the Walrus. The Elephant Seal is the largest and the most valuable. The common Seal [*Veau-marin*—*Phoque*] is from three to five feet in length.

## ORDER IV. MARSUPIALIA:—

### POUCH-BEARING ANIMALS.

The chief Families in this order, are the OPOSSUMS of N. America, of which there are twenty species known, and the harmless KANGAROO of Australia. The greater Kangaroo is six feet high as it sits upright; the small-

est of the forty species belonging to Australia, is about the size of a hare. There are no Marsupials in Canada, —and no quadrupeds but these in Australia.

### ORDER V. RODENTIA :—

Animals with two large incisors in each jaw, separated from the molars and fitted for gnawing hard substances. The Rodents are found in all parts of the world, and are more numerous in Canada than any of the Orders, being represented by five Families, (comprising 18 genera and nearly forty species) :—

The **Squirrel Fam.** [*Ecureuils*] ; the **Beaver Fam.** [*Castors*] ; the **Rat and Mouse Fam.** [*Rats*] ; the **Porcupine Fam.** [*Porcs-épics*] ; the **Hare Fam.** [*Lièvres*].

All the animals of this Order are remarkable for having long hind-legs, which give them a facility for leaping. Most of them are afraid of other animals, and live as much as possible in obscure situations.

**Beavers** are still numerous in remote parts of Canada. They are the most ingenious of all animals, in constructing a dwelling. Selecting a spot near a stream, they cut young trees, sometimes 15 or 20 inches in thickness, and let the wood float down to a particular place where they use it in building huts, and erecting dams : there they live much like human beings living in a town. The largest structure of this kind was discovered on Grass-lake (west of Lake Superior). The dam was 360 feet long, and from six to nineteen feet in height. Any one who reads the description of the labors of the Beaver, may see that no dull animal has been chosen for our national emblem.

The **Common Mouse**, [*Souris*] although small in size, is ranked among the greatest pests of man ; it has accompanied him in all his adventures for colonisation, and spread itself to every quarter of the globe. The Rat belonged originally to central Asia ; it found its

way to Europe by emigrating to Russia in large troops (1737). About one hundred years ago (1775) it found its way to America.

The **Squirrel** is a beautiful, active little animal, remarkable for the gentleness and innocence of its manners. Its food consist of fruit, hazle-nuts, beech-nuts, and acorns. The Chipping or Striped Squirrel, the Flying Squirrel, the Red Squirrel are the most common. The Woodchuck or Marmot [*Marmotte*] is another genus of the Squirrel Family, \* <sup>1</sup> not uncommon in this country.

The **Porcupine** is provided with a singular means of defence in the spines which are concealed in its hair; but the popular notion that it can throw its quills at an enemy is entirely erroneous. The Guinea Pig, indigenous to S. America, is found in a domesticated state in Canada. It is in no way related to the pig, but is classed by naturalists with the Porcupine. \* <sup>2</sup>

The **Hare and Rabbit** [*Lepus*] are found in nearly all parts of the world. The timidity of these animals is proverbial. One of the American species, the Northern Hare or White Rabbit, very common in Canada, is remarkable for changing its color with the season, its fur being cinnamon-brown in summer, and white in winter.

## ORDER VI. EDENTATA :—

Animals without front teeth; their toes are covered with large hoof-like nails. The EDENTS are animals of comparatively little importance, and are unknown in Canada.

The Sloth, inhabiting South America, the Armadillo, the Ant-Eater, are of curious but not engaging habits.

## ORDER VII. PACHYDERMATA :—

Thick-skinned animals, having no nails or claws,

---

\* 1 The Marmotte is sometimes classed as a separate Fam.

\* 2 NOTE. See Tenney's Manual of Zoology.

but a horny mass, sometimes double, termed a hoof, which seems designed as a kind of shoe to protect their feet.

The **Elephant** [Elephantidæ] the largest and most sagacious of living land-animals, is distinguished from the other families by a long proboscis, called a trunk, the design of which is to lift food to the animal's mouth. With his trunk, the elephant can seize the smallest, as well as the largest objects, place them on his back, hold them or throw them off with the utmost dexterity. Elephants at the present day, are only found in the warm regions of Asia and Africa.

The **Rhinoceros Family** [Rhinoceridæ] includes the Tapir (the only American genus of this Family) and the Hippopotamus.

The **Swine Family** includes the Wild Boar, the parent stock of the domestic Swine.

The **Horse Family** [Equidæ] presents us that noble animal the horse,—the most beautiful, graceful, and the most useful to man of all the Pachyderms. The Arab horses are the finest and fleetest ; the largest and strongest are from the coasts of the North Sea ; the smallest from the North of Sweden and from Corsica. Another animal of this family, the Ass, noted for its patience and great power of endurance, has been domesticated, and is used as a beast of burden in all parts of the world.

## ORDER VIII. RUMINANTIA :—

Animals that ruminate, or chew the cud, with cloven feet, and provided with four stomachs.

This order includes animals that furnish man with flesh and milk for food, with hides for leather ; many of them are used for beasts of burden and draught. They live on grass, and receive their name, as an Order, from their habit of masticating their food twice. Another characteristic is the absence of incisors in the upper jaw.

The **Ruminants** may be divided into three great

Families:—those with solid horns, as the DEER FAMILY (Cervidæ); those with hollow horns, as the Antelopes, Goats, Sheep, and Oxen, called the CAVICORNIA FAM.;—and those which have no horns, as the Camels of the Old World and the Llamas of the New;—CAMEL FAM. The DEER F. [*Cerfs*] presents us in Canada, the Moose [*Orignal*]; the Reindeer or Caribou [*Renne, Caribou*]; the American Elk and Deer [*Cerf de Virginie, C. à grandes oreilles*].

In the ANTELOPE FAMILY are reckoned, the Pronghorn Antelope [*Antilochèvre d'Amérique*]; the Mountain Goat [*Chèvre des Montagnes*]; the Bison [*Bœuf-Bison*], the Mountain Sheep [*Mouton des Montagnes*]: all so well known to the hunters of Canada and the far-West in former times, but now fast becoming rare.

Other animals of the Cavicornia Family are the well known domestic sheep (Genus *Ovis*); the Goat in its various species (*Capra*); the Wild Goat of Persia; the Cashmere Goat; the Ibex; the Ox (*Bos*) in its numerous varieties. The American Buffalo (*Bos Americanus*) is the largest quadruped of America, and is found in the Western plains in herds, from a score to several thousand in number.

#### ORDER IX. CETACEA:—

Animals that live in the water, but have warm blood and breathe the atmosphere by means of lungs.

The **Whale Family** [*Baleines*] includes the largest of living creatures, the common Whale, which is sometimes 100 feet long. It moves through the water by a tail and two paddle feet. The whale is sought for the sake of its fat or blubber, which has been known in some instances to yield a hundred and twenty tons of oil. Four species of Whale are met with in the Gulf St. Lawrence. \*

---

[\* A whale measuring 62 feet in length, had the curiosity to come up the river as far as the eastern extremity of the Island of Orleans, where it was caught,—as many others have been before him—and is now being exhibited in the city (August 1871).]

The **Dolphin Family** [*Dauphins*] is found in all seas. The species are numerous ; they herd together, and are noted for their rapacity, and for their great velocity of movement. The Grampus or Killer [*Dauphin Gibbar*] is 20 to 25 feet long, and is daring enough to attack the whale. The common Porpoise [*Dauphin vulgaire*] is the smallest of the Cetaceans, being only 4 to 5 feet long. This species abounds in the St. Lawrence, and is prized for the excellent oil it yields. The White Porpoise [*Marsouin blanc*] is 20 or more feet in length ; it ascends the river to Quebec, and even further. Porpoises are taken in great numbers along the shores of the Gulf and river.

The **Dolphin** of the ancients, so celebrated for its alleged fondness for music, is of all seas ; it is 6 to 10 feet long ; the color, black above and white beneath. It is generally confounded by navigators with the Porpoise, but it has a much longer and sharper snout, and the body is of a more slender shape.

There is a *fish*, generally known as the Dolphin at the present day, which of course is not the cetaceous animal here described. This fish is about 5 or 6 feet long ; the back is spangled with bluish-green spots ; the tail and fins are gold color. It swims with such amazing rapidity as to keep pace with a swift-sailing ship for a considerable time. Its principal food is the Flying-fish.



## CLASS II. AVES—BIRDS.

---

[The pupils will not fail to remark that the details which follow this title are longer, in proportion, than are given on the three other Classes of Vertebrates. They will no doubt appreciate the motives that have led us to extend this division of our subject, and will perhaps wish, with us, that we could afford to lengthen it enough to merit the title of *Ornithology*.]

### WHO LOVES NOT THE BIRDS ?

To young ladies, especially, no Class of the Animal Kingdom is so generally interesting as the Birds. Like the Flowers, they attract our attention by their beauty and grace, and by associations the most pleasing of fragrance and sunshine, of the freshness of spring, and all that is most exhilarating in nature.

We admire the symmetry, lightness, and buoyancy of their frame ; the delicacy, richness, and varied coloring of their plumage ; the skill and design manifested in the construction of their nests : as well as their care and affection for their young ; and their attachment for their native haunts ;—the wood and meadow, the tree or hedge where they first essayed those wonderful gifts,—the powers of flight and song !

These are gifts, almost to excite our envy, as well as our admiration. Who would not wish like them to

“ Wander through the realms of space,  
Free guests of earth and sky ? ”

Who can listen to their melody and not be led to glorify the Creator, whom they seem to praise in their sweet songs ? Each little warbler has a note different from the rest, yet there is no discord in their concerts. Their voices, so various, mingle with other rural sounds and

ring in pleasant strains from every grove and thicket, from the break of day till the return of night-fall. One, more persevering than the rest, continues her exquisite song through the whole night:—this is the Nightingale, (not the Song-Sparrow, here called by that name, but the European species) so famous for the variety, brilliancy, and sweetness of its ever changing melody.

#### HOW BIRDS ARE DESCRIBED.

**Birds** are scientifically described as vertebrated animals, covered with feathers, furnished with two legs, two wings, and a horny bill.

If we examine the form of a bird, say a dove or a sparrow, we perceive that the general contour of its body is boat-shaped, as best adapted for cleaving its way through the atmosphere; its neck is long and pliant; its wings are made of the lightest materials, yet capable of presenting a firm resistance to the air; the stiff feathers that form the tail, serve as a rudder to direct the flight.

The **plumage** of the wings is made up of long quills, called *primaries*; shorter ones, called *secondaries*; these are succeeded by the *tertiaries*; the short feathers at the base of the quills are called *coverts*. The feathers that grow from the shoulder are called *scapulars*; those from the end of the wing, spurious *quills* or the *winglet*. The tail feathers, or *rectrices*, have also their *coverts*.

In the legs of birds, the part called the *tarsus* is generally covered with scales instead of feathers, and is united to three anterior *toes* and a posterior, or *thumb*.

The **internal structure** of Birds is no less adapted to the element they chiefly inhabit. Their bones are thin and hollow; all the muscles, except those which are appropriated to the purpose of moving the wings, are extremely delicate and light; the lungs are so placed that the different parts of the body and even the cavities of the bones, can be filled and distended with air, thus tending to increase the relative lightness of the body in the surrounding atmosphere.

The **eyes of birds** are admirably adapted to vi-

sion, and are so constructed that they can, with equal facility, distinguish objects near or remote.

The **ear** of birds has no external apparatus, but their sense of hearing is exceedingly acute. The organ of **smell** is concealed in the base of the bill.

The tongue has but little muscular substance, and the **taste** is probably not very delicate.

The plumage of birds is rendered water-proof by the oil with which they dress their feathers, and which is furnished by a special gland, or reservoir, situated at the base of the rectrices.

Birds **moult** their feathers twice a year ;—thus does Providence provide them with new raiment according to their need. In some, the winter plumage differs in its colors from that of summer so far that the same individual might easily be taken for two different species.

#### MIGRATION.

At particular times of the year most Birds remove from one country to another, or from the more inland districts towards the shores :—the chief causes of these migrations being the want of food, and a proper temperature of air ; or to find a convenient situation for breeding and rearing their young. The times of these migrations are observed with astonishing order and punctuality ; while the advantage birds possess in being raised to a considerable height in the air, and a sagacity peculiar to intuitive knowledge, enable them to discover with certainty the route they are to pursue.

Each different tribe of birds has a different mode of travelling. Some depart quietly, a single family by itself ; others reunite families enough to form a little colony ; others again, the Swallows for instance, assemble in vast flocks. Within two or three days of their retiring, the tops of old trees, or the roof and steeple of some solitary church, is fixed upon as a place of general resort.

If we may judge from what we have observed here in the city, there are parties organised to beat up every retreat, and warn the dilatory to be ready. Wherever the nest of a swallow is to be found, the whole flock will be seen careering with loud and earnest warblings; but the tenants of the cloister, the delicate White-breasted Swallows, decline the noisy invitations of the Barn Swallows, and take their leave of us only when the first caravan has departed.

#### NESTS.

The **Nests of Birds** are constructed with such exquisite art as to exceed the utmost exertion of human ingenuity to imitate them with success.

The mode of building, the materials they make use of, as well as the situations they select, are as various as the different kinds of birds. Those of the same species, whatever region of the globe they inhabit, collect the same kind of materials, arrange them in the same manner, and make choice of similar situations for their temporary abodes. Every part of the world furnishes materials for the aerial architects:—leaves and small twigs, roots and dried grass, mixed with clay, serve for the external; whilst moss, and wool, fine hair, and the softest down, form the internal carpeting of their little cottages. Some Water-fowl strip the down from their own breasts, for the purpose of lining their nests with greater comfort for their little family. While the female is hatching, nothing can exceed her patience;—neither the calls of hunger nor the near approach of danger being capable of driving her from her nest.

#### UTILITY OF BIRDS.

Most of the smaller Birds are supported, especially when young, by a profusion of caterpillars, worms, and insects; on these they feed, and thus contribute to preserve the Vegetable world from destruction. A single pair of Sparrows, during the time they are feeding their young, will destroy about four thousand caterpillars weekly. Swallows, in their curious winding flights, destroy immense numbers of flies and other winged insects;

" Home Sweet Home

various other small birds may be observed running up and down the branches, examining every leaf, feeding upon insects or their eggs, and thus protecting the future harvest.

Birds of the Vulture kind, in the warm regions to which they belong, are guardians of the public health, by destroying putrefying carcasses, whose noxious vapors would corrupt the air ; many other Birds of prey, devour serpents and other reptiles, or feed upon small animals which are hurtful to man ; while the flesh and eggs of vast numbers, especially of Water-fowl, afford excellent food for the poor as well as the rich.

In a word, the utility of Birds is such that grave legislators debate for their safety, and frame laws for their protection.

These are a few instances of that superintending Providential care which is continually exerted in preserving the various ranks and orders of beings in the scale of Animated Nature. Myriads of individuals are destroyed every moment, yet not a single species is lost, but every link of the great chain remains unbroken :

“ Our Heavenly Father guides,  
The least of them ; and well provides  
For each, with tenderest care.”

*Antem*

## SUBDIVISIONS OF CLASS II.;

OR

## CLASSIFICATION.

The **Class of Birds** comprises ten to twelve thousand species, and is divided into six Orders :—**BIRDS OF PREY** [*Rapaces*] ;—**CLIMBERS** [*Grimpeurs*] ;—**PERCHERS** [*Passereaux*] ;—**GALLINACEOUS**, or the **POULTRY TRIBE** [*Gallinacés*] ;—**WADERS** [*Echassiers*] :—and the **WEB-FOOTED** [*Palmipèdes*].

[This is the system of Cuvier and of the illustrious Linnæus ; other naturalists have adopted a different arrangement by subdividing some of the six Orders, as the pupils may see by referring to different works on Natural History in the Class Library.]

## ORDER I. BIRDS OF PREY.

### RAPTORES,—ACCIPITRES.

In Birds of Prey the beak is strong and hooked ; the talons sharp, incurved and powerful,—three toes before and one behind. Their flight is soaring and rapid ; their appetite carnivorous.

This order is divided into two groups : Diurnal Birds of Prey, and Nocturnal,—comprising three families :—Falcons [*Faucons*] ; Vultures [*Vautours*] ; and Owls [*Hibous*].

**Diurnal Birds of Prey** are distinguished by their dense plumage, and the lateral direction of their eyes ; the Nocturnal by their loose plumage, and by the anterior direction of their full round eyes.

The **Falcon Fam.** (Falconidæ) comprises Eagles [*Aigles*], Falcons, Hawks [*Autours*], Buzzards [*Bussards*], and Kites [*Buses*].

Among all the Birds of Prey, the **Eagle** (*Aquila*) is pre-eminent for courage, strength, and boldness. What the Lion is among quadrupeds, the Eagle is presumed to be among birds ; one that distains all petty plunder, and pursues only such prey as would seem worthy of conquest.

Of all the feathered tribe, the Eagle soars the highest, while the peculiar structure of his eyes enables him to look steadfastly at the sun, and to discern his prey at an immense height in the air.

He lives to a great age, and it is said that one died at Vienna after a confinement of one hundred and four years.

The Eagle's nest is generally placed upon the jutting ledge of some inaccessible precipice, or in forests upon some lofty tree ; and consists of sticks, twigs and rushes, thrown together.

Our Canadian Ornithologist describes the Golden Eagle, and the Bald Eagle, (the national emblem of the American Republic) as being common in Canada. The Golden

Eagle is the largest of the species, measuring above three feet in height, while its wings extended measure six or seven feet. <sup>or more</sup> Hawks, and other predaceous birds, smaller than the Eagle, are not uncommon in Canada. Among them none is more bold and pertinacious in pursuit of his prey than the Sparrow Hawk, <sup>7.5 inches</sup> [Emerillon], making great depredations among pigeons, partridges, plovers, and the young of domestic poultry. It is found in various parts of the world; the European species being larger than ours.

The **Vulture Fam.** (*Vulturidæ*) comprises Vultures proper; the Condor of S. America, which has a spread of wing from nine to fourteen feet; and the Vultures of the Old World; as well as other genera of smaller size, such as the Carrion Crow, the scavenger of the Southern States, the Turkey Buzzard, common to all N. America &c. These loathsome animals, which prefer feeding on dead and decaying carcasses, render immense service to man in hot climates where putrefaction is most rapid and most injurious to health.

The **Owl Fam.** (*Strigidæ*) comprises all the nocturnal Birds of Prey, of which there are many species.

Unable to bear the brighter light of the sun, the Owl passes the day in some lonely retreat; at the approach of evening it comes forth from its lurking place in quest of prey. Its flight is low and silent, and when it rests, it interrupts the silence of the night by frightful and reiterated cries.

When the Owl is forced from his retreat during the day, his flight is broken and interrupted, and he is sometimes attended by numbers of small birds which, seeing his embarrassment, pursue him with incessant cries, tormenting him in various ways, while he regards the assembled group with all the appearance of mockery, as if premeditating revenge.

The common Owls of Canada are the Great Horned Owl [*Duc de Virginie*], and the Screech Owl [*Hibou-barre*].

There are some species of Owls, able to fly and see distinctly in open day. Of this kind is the Hawk-Owl,

(*Surnia ulula* — *Chouette Epervier*) common in all the Northern regions of both continents. In the summer season it feeds principally upon mice and insects. In winter it preys upon the ptarmigan and other birds of northern regions. Its plumage is mottled white and brown; its length about 16 inches. The Great Horned-Owl is 25 inches in length, while the Pigmy Owl, the smallest of the Family, is but 7 inches long.

The most useful species is said to be the Barn Owl, (the same that is called the Screech Owl,) which more than any other, feeds on mice, rats, moles and large insects. When it has its young to feed, it will bring a mouse to the nest every twelve or fifteen minutes;— this is a sufficient proof that the Owl is a useful bird and *merits encouragement*, even though it has not a sweet voice.

## ORDER II. CLIMBERS.

(SCANSORES).

This Order comprises birds which have their toes in pairs, two in front and two behind,—affording a means by which some of them climb and cling to trees. The principal families are the Woodpeckers, [*Pics*], Cuckoos [*Coucous*], Parrots [*Perroquets*], Toucans, and Trogons. The three last are not found in Canada.

The **Woodpecker Fam.** [*Picidæ*] is extensive; these industrious birds being found in every quarter of the globe. They build their nests in the deep holes of trees, hewed out by the power of their bill. Their food is for the most part insects, which they search out in the crevices and under the bark of unsound trees. The bill of the Woodpecker is indeed a most efficient instrument for splitting and chipping bark and wood.

It is thick and strong at its base whence it narrows to a compressed point like a minute chisel. The tongue is of a most remarkable structure, and capable of being protruded and retracted with singular rapidity.

The **Golden-Winged Woodpecker** (*Colaptes auratus*—*Pivart, Pic Doré*) is distinguished by the comparative lightness and length of its bill, and its beautifully-varied plumage: a red neck-band, black-vest, white tunic, and gray mantle mottled with black, with yellow pinions, render it very conspicuous among the feathered tribes. It is a cheerful bird, and while it labors it makes the woods resound with its loud, merry notes.

The **Downy Woodpecker** [*Picus pubescens*—*Pic Minule*] is much smaller, and its plumage less brilliant. It is an active, familiar little bird, frequenting orchards, ridding the apple-trees of vermin, and digging off the moss, which the negligence of the proprietor has suffered to accumulate.

The **Parrot Family** [*Psittacidæ*] is a very numerous and splendid one, forming several groups; as the Macaws, Cockatoos, Paroquets which are often tamed and kept as pets. They are all natives of tropical, and the warmer temperate regions. The only species found native in the United States, is the Carolina or Illinois Parrot, the plumage of which is very beautiful and not unlike the Green Australian Parrot of our Collection.

The Gray Parrot, which is about the size of a Pigeon, is of African origin, and is remarkable for its loquacity, docility, and distinctness of articulation. It is extremely long-lived, attaining the age of 70 or even a hundred years.

The Cockatoos are natives of Australia and the Indian Islands, and are distinguished from the true Parrot by a crest, or tuft of elegant feathers upon the head, which they can raise or depress at pleasure.

The most diminutive of the Parrot race is the Love Bird (*Taranta Psittacula*), so called from its affectionate disposition, evinced in acts of kindness towards its mate.

The color of the Love-bird is green; its quills dusky, fringed with green, its tail-feathers partly scarlet, tipped with black and green.

The **Toucans** inhabit the warm regions of South America, and are distinguished by an enormous bill, almost as thick and long as their body. They feed upon fish, insects, fruit, and even the eggs and young of other birds, which they obtain by dipping their long bill into their nests.

The **Trogans** have a very broad and short bill; the plumage is mostly bright colored.

The most remarkable American bird of the **Cuckoo Family** [Cuculidæ] is the Paisano or Road-Runner, of Texas and California. It is about twenty inches in length; its wing is but six inches; its legs are very long and it can run faster than a fleet horse. It frequents the high-ways;—hence its name.

The Cuckoo proper [*Coucou*] enjoys the unenviable reputation of pilfering the nests of other birds to suck the eggs; but the American Cuckoo does not, like the European species, display, such a want of natural affection as to abandon the care of its young to strangers.

### ORDER III. PERCHING BIRDS.

#### INSESSORES.

This Order, called also the **Passerinae**—*Sparrow-like* from the Sparrow Family which it includes, is more extensive than any other in the whole class of Birds. It comprises all the more familiar and smaller birds; all in short that are not characterised as belonging to the five other Orders. They have all three toes directed forward, and one behind.

**Perching Birds** are chiefly granivorous or insectivorous. Some possess wonderful powers of song; others are remarkable for the beauty of their plumage; while many render important services to the gardener and agriculturist by destroying immense numbers of noxious insects.

The principal families are:—the Humming Birds (*Oiseaux Mouches*); Finches and Sparrows (*Moineaux*); Warblers (*Fauvettes*); Thrushes (*Grives*); Swallows (*Hirondelles*); Flycatchers (*Moucherolles*), &c.

**Humming Birds** [*Trochilidæ*] are the most diminutive and the most brilliant of the feathered race.

The splendor and beauty of their colors are beyond description. One might as well attempt to describe the rainbow, as the mingled hues which flash from these beautiful forms of life, when glancing among the foliage, or hovering over the flowers, in quest of their accustomed food.

They belong exclusively to the continent and islands of America; and are most numerous in the hot regions. The feet of Humming Birds are very small, their wings long and narrow; the bill is thin, sharp-pointed, and generally long; the tongue is a sort of tube, fitted to extract the honey and the small insects that may be found in the flower-cups. Their nests are beautifully constructed of vegetable down, or of the silk-cotton and moss.

[Our collection shows two Ruby-throated Humming Birds, taken in Quebec; two Emerald-colored, and three larger species from S. America. The nest is from Jamaica. It was found suspended over the bank of a little stream, on one of the most delicate of the Ferns,—the Maiden-Hair. It was presented to the Convent (with many other treasures for our museum) by the Hon. John Fraser.]

**Wrens** [*Troglodytes*] are active little birds that feed on insects. Some of the smaller species are scarcely larger than a Humming Bird. Their song is generally short, but pleasing. Some of the species can bear great extremes of temperature.

The **Titmouse Family** is allied to the Wrens. The Black-Cap Titmouse or Chicadee (*Mesange à tête noire*) is easily known by its black head and throat; the upper part of its plumage is lead-colored; underneath, it is whitish. This little bird, the farmer's friend, is familiar to those who live near the forests, in any part of Canada. In the fall and winter, it leaves the depths of the woods and makes its appearance in the vicinity of the habitations of man, feeding on the larvæ of insects

concealed in the crevices of the bark of old trees, or contenting itself with the seeds of the pine.

Our collection numbers three other specimens of the Titmouse Family, from Australia. Their plumage presents a variety of colors in strong contrast.

**Flycatchers**, (*Muscicapidæ*). These are also insectivorous birds which take their prey as they fly. There are a multitude of species diffused through every quarter of the globe.

The largest of the Flycatchers is the King-bird or Tyrant Flycatcher (*Titiri* or *Tri-tri*,—*Tyrannus carolinensis*) easily known by the red spot or crown upon its head; the general color of the plumage is dark slaty-ash above, and white underneath. It is a daring and spirited bird, making war upon the Crow and Hawk if attacked by them, and defending its young against all intruders even were it the hunter himself.

The **Pewee Flycatcher** (*Moucherolle brun*,—*Muscicapa fusca*), is common throughout Canada. Its name is derived from its note,—Pee-wee. The color of its plumage is chiefly olive and brown.

The **Redstart** (*Moucherolle doré*,—*Muscicapa ruticilla*) is the most slender and graceful of the Flycatchers. Its plumage is black and brown; its wings are marked with a spot of orange. Wherever flying insects abound, this little bird is sure to be seen. Its nest is formed of flax well wound together, interspersed with moss and lined with down. The eggs are white, sprinkled with gray and blackish specks.

The **Chatterers** or **Waxwings** (*Jaseurs*,—*Bombycillidæ*) live principally upon berries, of which in the season, they devour enormous quantities. They are also expert at catching flies, which has led some naturalists to group them with the Flycatchers, properly so called; but the latter feed on insects exclusively.

The **Bohemian Chatterer** (*Jaseur de Bohème*,—*Ampelis garrulus*) is clad in plumage of a silky texture, delicately shaded in tints of fawn color, yellow and ash.

A line of intense black crosses the forehead and throat; upon the wings there are horny tips resembling wax;—hence the name—Wax-wing.

The **Cedar Bird** (*Jaseur du cèdre*,—*A. cedrorum*) is similar in plumage, but smaller.

**Swallow Family**, (*Hirundinæ*). The habits and modes of living of the Swallow tribe are perhaps more conspicuous and noticed by us than any other. Their arrival is associated in our minds with the idea of spring, and till their departure they are constantly before our eyes; the air seems to be their home.

The beak of the Swallow is much flattened and very deeply cleft, the feet are short, and the wings long. Their food, consisting of the smaller species of insects, is always taken on the wing.

Like the Robin, the Swallow returns annually to the same haunts, resumes and repairs her old nest or builds a new one.

The **Chimney Swallow**, (*Hirondelle de cheminée*, *Ramoneur*,—*Choetura pelasgia*) belongs properly to the Swift Family. Some vacant chimney serves as a hiding place for its nest, formed of small twigs, fastened together with a very adhesive glue, which is secreted by glands on each side of its head.

The color of the Ch. Swallow is of a deep sooty brown.

The **White-breasted Swallow** (*Hirondelle bicolore*,—*Hirundo bicolor*) is greenish-black above, and white underneath. It is a beautiful bird and a general favorite. It makes its nest in holes around buildings, which it is ingenious in discovering; or it appropriates to this end a box or house, prepared by some hospitable hand for its accommodation.

The specimen in our Collection met with an untimely end by mistaking the chimney of a ventilator, for a house destined for its own convenience. After struggling long to extricate itself it was at last discovered,—but it was too late. The poor Swallow on being set at liberty, could only look its thanks, and expired in the hand of its liberator.

**Finches** (*Fringillidæ*). This large Family includes several groups more or less related to each other. None of them are of large size; they feed chiefly upon various kinds of grain and seeds; occasionally, also, upon insects. They frequent fields, groves, and woodlands; while many, being gifted with the power of song, are kept in captivity for the amusement and gratification of man.

The **common Chipping Sparrow** (*Pinson Gris*,—*Spizella socialis*) is a representative of the Finches, so constantly seen in the vicinity of our habitations that no person can be ignorant of its habits.

Those that frequent the Convent-Grounds know well the spots to which they may resort for a daily supply of crumbs of bread; one, even, having been fed from a certain window at various times, made bold to come and peck at the glass to obtain its accustomed repast.

Two other species build their nests in our cloistered grounds: one is the Song Sparrow (*Rossignol du Canada*,—*Melospiza melodis*) sometimes called the Canadian Nightingale, one of the first singing-birds heard in spring. Its notes are short, but very sweet, and are uttered (*here*) from the branches of the lilac or plum tree where it will sit singing for an hour together. Its plumage is reddish-gray, streaked with brown. Its nest is so loosely put together that, if he is a musician, it must be owned he is no architect. The eggs are white, speckled with brown.

The **White-throated Sparrow** (*Pinson à poitrine blanche*,—*Fringilla albicollis*) is the largest and the handsomest of this genus. It has a stripe of white, bordered with black, and this again with white, from the base of the bill across its head; its chin and breast are nearly white; the rest of its plumage is variegated with ash, brown, and black. Its note is clear and shrill, and very loud, but has little variety.

The **Canary Finch** (*Serin*,—*Fringilla Canaria*) is the well known caged-songster, a native of Canary and Maderia. In its wild state, the prevailing color is gray or brown, mingled with other colors, but never reaching

the brilliancy of plumage exhibited by the bird in captivity.

The **Yellow-Bird, or Goldfinch**, (*Chrysomitris tristis*,—*Chardonneret*) is another of our native songsters, that loves the orchard or garden. Its favorite food is the seed of the thistle, dandelion, and burdock. Yellow-birds are easily tamed, and they readily catch the song of the Canary and other birds.

Their plumage in autumn after moulting does not present the same brilliancy of coloring as in summer; thus they seem, like ourselves, to prefer a plain travelling dress.

The **Black Snow-Bird** [*Junco hiemalis*—*Niverolle*] is another familiar visitant of our cloistered grounds, so familiar indeed, that it has been known to enter one of our Class rooms repeatedly, without taking alarm at the presence of its usual occupant. It evidently remembered the hospitality one of its young brood had received there;—and perhaps also the grains it had found upon the window seat.

The color of the Snow Bird is slate-gray, and ashy-black, before; white underneath; first and second tail-feathers, also, white.

The **Scarlet Tanager** \* [*Tangara écarlate*—*Tanagra rubra*] although a rare visitant in the environs of Quebec, has been seen (1867) resting near the Old Ash tree, (then the pride of the Convent-garden:—now gone) displaying its magnificent plumage, scarlet and black, to the admiration of a few select observers. This splendid bird, partial to warm weather, spends the winter near the tropics in Mexico or Texas, and comes northward only in the fulness of summer. He rarely approaches the habitations of man, preferring the thick foliage of the forest, where he dashes from tree to tree, like a flashing meteor, uttering a loud song of surpassing sweetness.

---

\* The Tanagers of America, are here ranged as a sub-family of the Fringillidæ, although upon the Chart (Cuvier's system) they will be found among the dentirostres.

The **Red Bird** [*Tangara vermillon*—*le Roi des Oiseaux*] is still more brilliant. The female is clad in a simple attire of yellowish-brown.

The **Snow Bunting** [*Plectrophanes nivalis* — *Oiseau blanc*, *Plectrophane des neiges*] is a hardy bird, inhabiting the Artic regions all around the globe. Snow-Buntings are said to sing very sweetly, in the wild regions that make their summer-home. They are extremely abundant, and when driven by the excessive cold to seek a more temperate climate, they assemble in flocks around the barns and farm-houses on their way, where they fall by hundreds into the fowler's snare.

The **Grosbeaks** from another genus of the Finch Fam. ;—they are distinguished by a strong and thick bill. In general they are a <sup>timid</sup> shy and solitary race, chiefly residing at a distance from the abodes of man. The Pine Grosbeak (*Pinicola canadensis*—*Gros Bec des Pins*) is the largest of the group ; the plumage of the male is carmine-red ; that of the female olive-brown.

The **Rose-breasted Grosbeak** [*Guiraca ludoviciana*,—*Gros Bec à gorge rose*] is one of the most brilliant of our native birds. Like the Pine Grosbeak it delights in the deepest solitudes of our primeval forests where the buds of the pine, and wild fruits, furnish its bill of fare. Its song is loud, clear and mellow. Another species is of a brilliant blue.

The common Crossbill belongs to the same group as the Grosbeak ; its food is the same, but it has a differently formed instrument, in its crooked beak, for opening the pine buds to obtain the tender seed within. The species called the Red Crossbill (*Curvirostra Americana*,—*Bec Croisé ordinaire*) is of a dull red color ; wings and tail, brown.

The **White-winged Crossbill** [*C. leucoptera*—*Bec croisé aux ailes blanches*] is a species found sometimes in company with the former ; it is distinguished

by a more graceful form, and by the white spot upon its wings. It uses its bill and claws like a parrot.

In captivity this Crossbill gives evidence of superior intelligence, but it has an innate love of liberty which renders it impatient of the cage. An apartment, however, is a sufficient substitute for the forest, and it can be so tamed as to desire human society. Its song is sweeter than that of the Canary Finch, but not so loud. One of these birds, kept for a time in the Convent, used to fly to meet its keeper, and alight on her hand to take its food. It was fond of being noticed, and used to sing only when it heard the voice of the pupils or some other sound.

**Warblers** [*Sylvicolidæ*]. The Warblers are all of small size and delicate structure, many being noted for their powers of song.

Their bill is slender and straight; wings moderate or short: their food is mostly the winged-insects of summer, or ripe berries. They principally inhabit forests and thickets where their mingled voices resound during the summer months; a few visit gardens and shrubberies.

The most celebrated of the Warblers is the Nightingale, the Philomela of the poets; but it is unknown in America. Our Warblers are however numerous, and of varied plumage and song.

The **Black-and-Yellow Warbler** [*Dendroica maculosa*—*Flauvette à tête cendrée*] is neatly attired, but his note is short, as well as his tarry in our vicinity. He passes the summer months near Hudson's Bay; it is only as a traveller we behold him.

Our common Yellow Warbler (*Dendroica Æstiva*—*Oiseau jaune*) utters a sweet and rather plaintive strain as it darts from branch to branch among the fruit-trees of the orchard and gardens. Its entire plumage is yellow, varied with olive.

[Our Ornithologist, James Lemoine, Esq., enumerates more than twenty Warblers that visit Canada.]

**Thrush Family** [*Turdidæ*]. The Robin (*Turdus migratorius*—*Merle*) is larger than the Warblers, and belongs according to Naturalists, to a distinct family; yet he is a *warbler* also,—to our ears at least.

It is one of the first songsters we hear in spring ; and his clear, shrill note continues to cheer us late in summer.

The Robin builds a large nest, to which it returns, if not disturbed, from year to year—

The Old Ash Tree, laid prostrate, August, 1867, in a storm, had sheltered from time immemorial a family of Robins. Driven from their old haunts, they have not, however, quitted the precincts of the cloister ; one of the tall poplars near Notre-Dame-de-Grace has been selected as a fit abode for future years.

Another of this family is called the Wood Thrush (*Grive des Bois*). The mellow note of this splendid songster is heard in the dense forest after sunset, and has won for its owner the appellation of Nightingale. Its nest is made of dry leaves, grass and mud ; its eggs, like the Robin's, are of a beautiful blue. Eight or nine species of Thrush are known in Canada.

**Blackbird Family** [*Icteridæ*—*Loriots*] one of the most splendid specimens of this family is the Golden Oriole,—or as it is sometimes called, the Golden Thrush. It is a splendid bird, of a bright golden yellow, except the wings, which are black ; the tail is partly black and partly tipped with yellow. (This is a European species.)

The **Baltimore Oriole** [*Icterus Baltimore*—*Baltimore Oriole*] is an American bird, of the most splendid plumage. It takes its name from Lord Baltimore, the first settler of Maryland, the arms and livery of that nobleman being, like that of the Oriole, orange and black. Its song consists of few notes, but these are loud, full and mellow. It builds a very curious hanging-nest on the drooping branches of elms and other trees.

The Bob-o-link, or Rice-bird, is a well-known genus of this family, and so is the Red-winged Starling, or Black-bird (*Agelaius phoeniceus*—*Etourneau-aux-ailes rouges*). The latter is a notorious and celebrated corn-thief, and as such there is often a price set upon his head. The Starling is also called the Officer-bird, in allusion to his

epaulettes ;— a bright scarlet spot upon his wings, the rest of his plumage being black.

The **Purple Grakle, or Crow Black-bird**, [*Mainate pourpre*,—*Quiscalis versicolor*] associates with the Starling in his depredations ; yet there are apologists for both, who maintain that their principal food consists of grubs and larvæ, and that it is only in the pursuit of their lawful prey that they meet with the temptation, and are guilty of eating rice and corn. The plumage of the Grakle, placed in a proper light, reflects a rich glossy blue, violet, bronze, and green.

The **Crow Family** [*Corvidæ*—*Corbeaux*] are but a remove from the Black-bird family. These birds are bold, cunning, and inquisitive ; some are proverbial for pilfering—hiding as they can what they have stolen.

The common Crow (*Corvus Americanus*—*Corneille*), the Raven (*C. Carnivorus*—*Corbeau*), are examples of this family : also the *Mino Bird* (*Gracula religiosa*—*le Babillard pieux*) which has the faculty of imitating human speech in greater perfection than any other of the feathered tribe. It is a native of Java, where it is highly valued. Its color is velvety black ; its feet and bill yellowish ; its head is ornamented with two singular membraneous appendages, forming a sort of collar.

The **Blue Jay** [*Cyanura cristata*—*Geai bleu*] is a bird of beautiful plumage belonging to this family. Its color is bright blue, varied with purple and white, barred on the wings and tail with black. It is a shy bird, with a disagreeable voice, fond of chesnuts, acorns and corn. He occasionally plunders the fruit trees, and what is worse, the nests of small birds, tearing the young brood by piece-meal ; sometimes even he attacks and kills full-grown birds.

The **Canadian Jay** [*Perisoreus Canadensis*—*Geai du Canada*] is plainly dressed in gray ; his reputation is no better than that of his bright-plumed relative.

The **Shrike Family** [*Lanidæ* — *Pies-Grièches*].

The White rumped Shrike (*Collyria—Pie-Grièche*) is still more notorious than the Jay for its carnivorous appetite. It attacks and kills small birds and other prey, such as mice, frogs, &c.

The **Kingfisher Family** [*Alcedinidæ—Martins-Pêcheurs*] comprises birds, generally of an inelegant shape;—a long, straight bill; short wings, and small legs. They feed upon fish, diving into the stream for their prey.

The **Belted Kingfisher** [*Alcedo Alcyone—Martin pêcheur*] is easily recognized by his long beak, his tufted head, his bluish-gray plumage, and a white band or collar around his neck. His favorite resort is some solitary stream, or mill-dam, where, perched upon a post or the branch of some tree, he sits for hours, watching the passage of a fish in the stream below. No sooner does he perceive one than he plunges, with the swiftness of an arrow, beneath the waves, bringing his prey ashore to feed upon at leisure.

[See Museum for the Pied Australian Kingfisher;—white, orange and brown underneath; head olive brown; back sky-blue; wings and tail, olive and verditer-green. Two specimens of the Smyrna Kingfisher—size of the Song Thrush. The plumage, party-colored of black and white.]

Asia, Africa and America possess numerous species of the Kingfisher;—Europe only one, but of a most splendid plumage,—orange, white, green and blue. The ancients supposed that the Alcyone, which feeds on fish, built its nest also upon the waves, which it had the power to lull;—hence tranquil days came to be called *halcyon* days.

## ORDER IV. GALLINACEOUS BIRDS.

### GALLINACÆ, RASORES.

This Order comprises birds that have a heavy body, short wings, stout legs, claws adapted for scratching up the soil: the head is small in proportion to the body, the bill generally short, with the upper mandible vaulted.

The principal families of this Order are,—the DOVES (*Colombes*), by some naturalists made a sub-order; the PHEASANTS or true GALLINACÆ (*Faisans*) the GROUSE FAM. and the PARTRIDGE FAM. (*Perdrix*).

The Order Gallinacæ furnishes us with the greater number of our farm-yard fowls or poultry; and also with much excellent game, their flesh serving as wholesome and substantial food, while their plumage is used for domestic purposes or for ornament.

**Dove Family** [Columbidæ]. Of all wild Fowl none are so plentiful as the Pigeon. We read of their being seen in flocks of many millions.

Wilson describes a Pigeon-roost or breeding-place in Kentucky, several miles in breadth and upwards of forty miles in extent, where every tree was furnished with nests to the number sometimes of 90 or 100 upon a single tree. Frequently the branches were broken by the weight upon them, bringing to the ground the nests and young Pigeons in such quantities that herds of swine were fattening upon them.

Pigeons were once abundant throughout Canada; they are still plentiful in the western part of the country. The Carrier Pigeon is a domestic variety which, from ancient times, has been employed to transmit intelligence. They were the only news-bearers, for a time, during the late siege of Paris.

The Canada Grouse (*Coq de Bruyère*—*Tetrao Canadensis*);—the Pheasant or Partridge (*Perdrix*);—the Ptarmigan (*Lagopède*, one species is called the *Perdrix blanche*);—the Wild Turkey (*Dindon sauvage*);—the Pinnated Grouse or Prairie Chicken;—these are all well known in most parts of North America, and their flesh is considered delicious fare.

Quails are smaller than Grouse; they are of the Partridge Family, and are so plentiful in the “far West” that tons of them and of Prairie Chickens, are shipped to the Atlantic cities.

The Virginian Quail (*Caille de Virginie*) is common in Canada West; in winter they are sometimes seen in the Poultry yard, searching for food, and by their plumage,

a mixture of reddish-brown, black, gray and white, as well as by their appearance, might be mistaken for overgrown chickens. In China, Quails are kept in cages, for the singular purpose of serving as a *muff* to warm the hands of their owners in winter.

The **Ptarmigan or White Grouse** [*Perdrix blanche*] is an elegant bird, found in the North of America and Europe. Its plumage is white in winter only, its summer dress being ash-color, mottled with brown and black. These birds fly in small flocks, and easily fall a prey to the Sparrow Hawk.

## ORDER V. WADERS AND RUNNERS.

### GRALLATORES, CURSORES.

This Order comprises birds which have the bill, neck, and legs very long; the toes are more or less united at the base by a web; the legs are devoid of feathers for some distance above the tarsal joint. These are the proper Waders, such as Cranes (*Grues*); Storks (*Cigognes*); Herons; Plovers (*Pleuviers*); Snipes (*Bécasses*); Rails (*Râles*); &c.

The Sub-Order, **Runners**, is made up of birds that run with great speed, but cannot fly; as the Ostrich (*Autruche*); Cassowary; Apteryx, and the like.

Cranes (*Grus Canadensis*) were formerly seen frequently in Canada, and have not yet disappeared altogether. Three species belong to North America; the largest being full four feet in height. The Crane is migratory and, soaring high in the air, performs the boldest and most distant journeys, passing from <sup>Canada</sup> Mexico, Florida or Texas to the Arctic Ocean. It is a shy bird, but can be tamed so far as to play with the children about the house like other domestic animals.

The Stork belongs to the Eastern Hemisphere; it is

celebrated for its great affection towards its young, and still more for its attention to its parents in old age. The African and Indian Stork stands six feet high, and even seven when the neck is fully erect : its wings expanded measure fifteen feet.

The Stork of Europe is only half as tall. It builds its nest in towers and steeples, seeking populous places instead of solitude, as if aware of its utility to man on account of its destruction of noxious reptiles.

The **Heron**, another Wading bird of enormous size, which feeds upon reptiles and fish, is common to both continents. The species and varieties are numerous, varying much in size and color, but mostly agreeing in their habits and instincts.

The **Ibis Family**, nearly related to the three preceding, comprises the Wood Ibis of the Southern States ; the splendid Scarlet Ibis or Pink Curlew of the West Indies ; the White Ibis of the South Atlantic, and a smaller species called the Glossy Ibis. This is the sacred bird, venerated, if not worshipped, by the Egyptians during its life, and embalmed after its death.

The Sandpipers, the Bittern, Coot, Rail, Plover, Curlew, and other Waders of smaller dimensions than those mentioned above, are common in most parts of the world. They may be seen, in autumn, hovering in large flocks along the shores of the St. Lawrence.

The plumage of the Sandpiper (*Alouette de mer*) is white and gray, mottled with black. The King Plover (one species of a numerous family, *Pleavier à collier*) has the front, throat, a ring round the neck, and the under part of its plumage, white ; a band of black extends around the back of the neck and across the breast, also across the head ; the rest of its mantle is ashy-brown. The Plover is remarkable for its fraternal dispositions. They flock together, and if one of their number is wounded by the hunter, the others, instead of seeking to escape, gather around their unfortunate mate, and suffer them-

selves to be caught or killed, rather than forsake the distressed one while it continues its cries. The Phalaropes, like the Plovers, live in small flocks on the sea-coasts. The only species seen on the St. Lawrence is the Phalarope of Wilson (*Phalarope*) ; it winters in Mexico. The Red Phalarope (see Museum) is common to both continents.

## ORDER VI. WEB-FOOTED BIRDS.

### PALMIPEDES.

These are formed for aquatic life. Their plumage is thick and firm ; their toes, webbed to the claws. They all swim well, and most of them dive freely.

The most remarkable families are,—the Duck family (*Canards*—*Anatidæ*) ; the Petrel F. (*Oiseaux de mer*) ; the Diver F. (*Plongeurs*) ; the Auk, Pelican, &c.

The **Duck F.** comprises the Swan (*Cygne*), the most graceful and majestic of birds ;—two species are American ;—and the Goose (*Oies*—*Anser*) which, in the domestic state especially, renders important services to man.

The **Common Wild Goose** (*Anser ferus*) is supposed to be the origin of our domestic species. The bill and legs of this wild Gray Goose are flesh color ; whereas, in the Canada Wild Goose (*Outarde*) they are black, as well as a part of its plumage. There are several other species known ; as the Snow Goose, which is pure white ; the White-fronted, the White-cheeked Goose, &c. belonging to America. Other species are as plentiful in the north of Asia and Europe.

It has been calculated that upwards of a million Geese, pass the summer months in the vicinity of Hudson's Bay, and that at least 70,000 are killed there annually. Nearer Quebec, at Crane Island, for instance, flocks of 2 or 3,000 may be seen at once feeding in the meadows.

Ducks proper, are distinguished from the genus Anser—Geese—by a shorter beak ; the back is flatter and the body more compressed.

The flesh of several species of Duck is held in high estimation, particularly that of the Summer Duck (*Canard huppé ou branchu*). The plumage of this elegant bird is varied with colors in striking contrast.

The head is surmounted with a tuft of glossy feathers ; the neck is white, gradually admitting a darker tint to a rich chestnut brown. The wings and the upper parts display other hues among which the Indian hunters of former days used to select bright feathers to ornament their calumet, the Pipe of Peace.

The **Buffed-headed Duck** (*Marionette*) is decked in black and white. The Eider Duck (*Canard Eider*) is mostly white. The celebrated Eider-down is obtained from the nest of this species, the birds having plucked it from their breasts to place around their eggs. More than 20 genera of Ducks are enumerated by American Ornithologists ; a large number of which frequent the gulf and river St. Lawrence through its whole course, as well as the other lakes and streams of all N. America. The Old Continent is not less stocked with this excellent game, which Providence has distributed so liberally to every part of the globe accessible to man.

The **Grebe** belongs to the Diver family. The flight of the Grebe is feeble ; on land they can scarcely walk, but they can plunge to a great depth in the water. Their plumage consists of a dense undercoat of down, overlaid by silky feathers which throw off the water as if their surface was oiled. This plumage is used for certain articles of attire in place of fur. The neck of the Grebe is long ; its tarsi short ; it has no tail ; its toes are separate, their edges being furnished with a stiff membrane covered with scales.

Other interesting birds belonging to this Order are the Frigate bird, or Man-of-War (*Tachypetes aquila—La Frigate*), which follows the hardy fisherman at a great distance from the shore, and disputes with him his hard earned booty ; the Penguins of Australia and Pata-

gonia ; the Petrel, associated in the seaman's mind with the terrors of storm and shipwreck ; the bold and destructive Sea-Gull ; the solitary and almost sacred Pelican.

Two hundred years ago, the two rocks at the entrance of the Gulf St. Lawrence, called the Bird Rocks (*Isle-aux-Oiseaux*) were so frequented by sea-fowl that a boat could easily be laden with their eggs. It was a dangerous feat to attempt to land. These rocks are still the favorite resort of Gannets, Puffins, Gillemots, Auks, Herring Gulls and Cormorants. Tho discordant voices of these wild sea-fowl are heard above the surf miles away.



## CLASS III. REPTILIA — REPTILES.

---

### [REPTILES.]

[Consulting, in some measure, as in the preceding section, the *taste* of the young Ladies who are taking a rapid survey of animated Nature, "the Gleaner" will not tarry long in this division of animal life. Not that we think the study of the nature, character, and habits of such creatures unworthy of our attention, or doubt the truth of Pope's celebrated lines—

"From nature's chain, whatever link you strike,  
Tenth or ten-thousandth, breaks the chain alike."

But the limits we have prescribed to this little treatise, as well as a *due regard* to that innate horror with which, in most minds, the very name of *reptile* is associated, induce us, the more readily, to refer the curious to other sources. The "Pictorial Museum" Jehan's "Tableau de la Création" and other works on Natural History at their disposition, afford abundant information, not only on the Reptilia, but also on the "Finny tribes," (which we shall also survey very briefly,) from the pretty speckled Trout to the most wondrous of the "Monsters of the deep".]

**Reptiles** are distinguished by a slow and imperfect respiration, which causes their bodies to be more cold and inactive than those of the Mammalia and the Birds, which are called the *warm-blooded* Vertebrates. The brain of Reptiles, as well as their lungs, is small, and they are generally sluggish in their habits, passing, in cold countries, a great part of the winter in a dormant state. The vital principle in these cold-blooded animals, is strong; they continue to live and exhibit voluntary motion long after losing the brain, and even after the head is cut off and the heart removed from the body. Almost all reptiles are carnivorous. They deposit their eggs in warm sandy places, leaving them to be hatched by the warmth of the atmosphere.

There are four Orders in this Class, viz : Chelonians, or Tortoises [*Chéloniens ou Tortues*] ; Saurians, or Lizards [*Sauriens ou Lézards*] ; Ophidians, or Serpents [*Ophidiens ou Serpents*] ; and Batrachians, or Frogs [*Batraciens ou Grenouilles*].

There is no common covering for the reptiles, as fur for quadrupeds, or feathers for birds. The skin is naked in frogs, scaly in lizards and serpents, and covered with a shelly plate in tortoises.

## ORDER I. CHELONIANS.

This Order of Reptiles may be divided into three families : Land Tortoises, River and Marsh Tortoises, and Marine Turtles.

**Tortoises** are enveloped in a firm bony shell, (formed by the spinal column and ribs, which are on the outside of the body,) from which no part projects but the head, tail, and four feet. The upper part of the shell is called the *carapace*, and the lower one the *plastron*.

**Land Tortoises**, vary from a few inches to three or four feet in length : the best known species in America, is the little Box Tortoise, which is very common. Is a gentle and timid animal, never takes to the water from choice, and lives on insects and fruit. The little land Tortoise of Europe is used for food.

Of the **Marsh** and **River Tortoises**, there is a great variety, differing much in size and character. Among these the most remarkable is the Alligator Tortoise or Snapping Turtle, so called from its propensity to *snap* at every thing within its reach. In the Southern States it devours great numbers of young Alligators.

**Marine Tortoises**, which are considered the only *true* Turtles, are known from the others by the paddle-like form of their feet. The best known species is the Green Turtle, which makes delicious steaks, and

savory soup. These Turtles sometimes weigh 200 or 300 pounds. The largest of the Sea Turtles is the Logger-head, which sometimes weighs eleven hundred pounds. The Imbricated Turtle furnishes the valuable Tortoise-shell of commerce : those that afford the finest shell are taken in the Indian Archipelago.

## ORDER II. SAURIANS.

The **Saurians or Lizards** are scaly Reptiles, with long bodies and generally four feet ; a large mouth, armed with teeth ; and a long tail. It comprises the Crocodile Fam. ; the true Lizards ; the Iguanas, Chameleons, Glass Snakes, and some others. The hotter climates of the globe are the great nurseries of the Saurians, and we of the temperate zone, can form no idea of the variety—no, nor of the *beauty* of the Lizard Family. It is a vulgar error to think that they are poisonous.

The **Green Lizard** especially is a beautiful and harmless creature, well known in the South of the U. States. It frequently enters the houses, moves over the furniture, the walls, and window-panes, in search of flies, and this without annoyance to the inmates.

The Horned Toad, of Texas, belongs to the same family and is equally harmless. It is about  $4\frac{1}{2}$  inches long. (*See Mus.*)

The **Brazilian Lizard** is quite a different animal, sometimes measuring five or six feet in length. It is noted for robbing hen-roosts, and stealing honey. It attacks the bee-hives with blows of its tail, running away each time, after giving a stroke, until it has wearied out the bees, which finally abandon the hive to their enemy.

The **Iguana** is another South American Lizard, of formidable size and appearance ; but it is fond of *music*, and is easily taken by slipping a noose over its head, its captor *whistling* to it while engaged in the operation. The Brazilian does not disdain the Iguana for food.

The **Chameleon**, another of the Sauria, we have all read of, in that story of the “two travellers” who

got into a violent dispute about its color, one declaring it was green, the other being quite as certain it was blue ;—

“ So high, in fine, the contest rose,  
From words they almost came to blows ; ”

And yet the reptile, on being produced by a third party, was found to be neither green, nor blue, nor black—but white !

The truth about this power of the Chameleon to change its hues is this. It is naturally of a pale gray color, from which it may pass from pale green to yellow, and dingy red, violet, and even black. In other respects it is a strange animal. It is very torpid, and is capable of so long an abstinence, that it has been thought to live on the air alone. In reality it feeds on insects. Its large eyes can be directed two ways at once—one looking forward, the other backward.

The most formidable of the Saurians remain to be mentioned ;—these are the Crocodile and Alligator, large and powerful creatures, haunting rivers and shores in warm countries, and often making even man their prey.

The usual length of the American Alligator is 18 feet, but that of Africa is sometimes 30 feet long. This animal was regarded as sacred by the Egyptians, and it was so trained (being caught young) as to march in their religious processions.

### ORDER III. OPHIDIANS.

The **Ophidians** or Serpents, have a body much elongated, destitute of feet, and covered with scales. Although many of the serpents are of the most resplendent coloring, although they glide on the earth, ascend trees, and even direct their course through the waters, without limbs, or feet, or fins,—yet man, without admiring their surprising agility and grace, remembers only

the curse once pronounced upon the race,—and the lamentable event which caused it:—he turns from the reptile with disgust and horror, or seeks to effect its instant destruction.

Serpents cast their skins once a year; they are all carnivorous, swallowing their food whole, even when the diameter of the object is greater than their own bodies.

The principal families of this order are the Boa (*Boa*); the Coluber, or common Snake (*Coulèvre*); the Rattlesnake (*Crotale*); the Viper (*Viper*); and Sea-Snake.

The **Boa Constrictor** is the largest of the Serpent race, being from 25 to 30 feet in length, and of a proportionate thickness.

The **Rattle Snake** (*Serpent à sonnettes*) is peculiar to America. This family, with the Viper, is known to be venomous; about 60 species have been enumerated.

The **Coluber** serpents, our common harmless snakes, are numerous in their varieties; over 300 have been described, a few of which are believed to be venomous.

## ORDER V. BATRACHIENS

### AMPHIBIANS.

These are creatures of the character of the common Frog. The chief interest connected with these animals, lies in the curious transformations they undergo, from the character of FISHES in their infancy, breathing by means of gills, to the nature and habits of true reptiles, having four feet and breathing by means of lungs. Thus the common frog begins life as a *tadpole* or *polliwog*, hatched from an egg in some pond or marshy place. It then feeds upon vegetables. When the *tadpole* changes its figure, its appetite becomes carnivorous. It now lives chiefly upon land, but when the cold sets in, it returns to the stagnant waters, where it conceals itself and lies all winter in a torpid state.

The Bull-frog in the United States attains in some instances a length of 21 inches. Its croakings may be heard at a mile's distance. The Leopard frog is accounted very beautiful. It is about 3 inches in length, and is capable of leaping eight or ten feet at a bound.

The Toad Family are allied to the Frogs, but are still more rnpulsive ; they are, however, useful to farmers by destroying insects.

The **Salamander** has been described by the ancients as an animal that is bred from heat, that lives in the flames and feeds upon fire. It is needless to say that there is no such creature existing :—certainly, the modern Salamander has not the smallest affinity to such an animal. The idle report of its being inconsumable by fire, has caused many of those poor animals to be burnt, for the sake of the experiment. The Salamanders of America are from three to twelve inches in length.

The **Triton**, an animal resembling the Salamander, but entirely aquatic, has the most wonderful power to reproduce mutilated or lost parts. The limbs may be removed, and in less than a year they will grow again. Even the *eye*, when destroyed, is said in time to be reproduced.

Here, again, the moralist might draw our attention to the providential care of the Almighty for the creatures He has formed ;—even for those that seem to us useless or despicable. May it not be chiefly to inspire the poor the weak, the *despised* among men, with a firm, unfailing confidence that all their necessities will be supplied ? He that has so “ clothed the lilies of the field,”—He that has cared so wonderfully for a *poor reptile*, will not forsake the creatures formed to HIS OWN IMAGE.

---

## CLASS IV. PISCES—FISHES.

[POISSONS.]

Of the real history of Fishes little is yet known, beyond an accurate description of their forms; and the providential peculiarities of their passage from one body of water to another at stated seasons.

The form of Fishes seems as admirably adapted for motion in the water, as that of the birds for flight in the air. Their progressive motion is chiefly effected by means of the expanded fin of their tail, with which they strike the water alternately from right to left. The other fins are employed in balancing and directing. The eyes of fishes are large in proportion to the size of their body, and they are destitute of eyelids. Respiration is performed by means of gills on each side of the neck, through which currents of water are kept constantly flowing. The small quantity of air contained in water, suffices for the respiration of these animals; but if they are put into water which has been deprived of air, they immediately die.

Fishes are of great utility to man, furnishing him with abundant supplies of agreeable food; while the exciting sport of their capture, their varied forms and brilliant colors, combine to render them subjects of interest even to the casual observer; still more does the reflecting mind find motives for adoring the wisdom and providence of the Almighty, who in peopling the earth, the air, and the sea, with myriads of living creatures, has provided for their support, regulated their instincts and made them all subservient, in some manner, to the general good of mankind.

To some fishes, bred in the sea, fresh water is immediate destruction; these are destined to become the prey of other fish; whilst the Salmon, the Shad and many others, leave their native element at certain periods of the year and proceed up the river several hundred miles, to carry wholesome and abundant food to man, leaving behind them a countless progeny to repeople their ocean home.

In structure and sagacity, fishes are quite inferior to quadrupeds and birds. They appear to be most voracious creatures and feed generally upon smaller members of their class;—although some are vegetable feeders, and some prey on shell-fish.

The number of known species of fishes is about 10,000. They are divided into two great groups, BONY or OSSEUS, and CARTILAGINOUS FISHES, which together include nine Orders.

The **Spine-Finned Fishes** are remarkably beautiful. The flesh of all is wholesome, and that of many is highly prized,—as the Perch, Mackerel, Cod.

Among Soft Finned fishes, are Salmon, Pike, Trout, Herring. The Salmon of the Arctic seas, which is from two to three feet in length, is celebrated for its delicious flesh. The great Trout of the Northern Lakes weighs sometimes more than one hundred pounds. The Speckled, or Brook Trout, are all highly prized for the delicacy of their flesh. Pikes are covered with scales of stony hardness.

The Cod fishery engages many thousand of men, and is a vast source of riches.

The Herring Family includes the delicately-flavored Sardine from the Mediterranean, the Shad [*Alose*], as well as the prolific Herring proper. A single Herring fishery sometimes furnishes annually several thousand barrels.

The Carp Family is of all fishes the least carnivorous. The common Carp, so much esteemed as food, has been introduced into America from Europe, (where it is bred in fish ponds,) and may now be taken in the Hudson

River. The Gold Carp, or Gold Fish, common in aquaria and vases, is indigenous to China. It is now bred in ponds in various parts of the United States.

Among fish in the Atlantic of extraordinary forms, we may mention the Puffer or Swell-Fish, which has the faculty of inflating itself like a balloon, by swallowing air. It is from 6 to 12 inches long. Another, the Sun Fish, weighing 500 pounds or more, is nearly orbicular in form; while several other small fishes have fins so fantastically formed that they have taken the names of the birds, as the Sea-Robin, the Sea-Swallow, the Sea-Raven.

The Trunk-Fish Family have the head and body covered with regular bony plates, soldered together, so as to form an inflexible shield, the mouth, the tail and fins being the only movable parts.

[*The species in C. Museum belongs to tropical seas; it was sent from Barbadoes.*]

The Flying-Fish, which is from 2 to 12 inches in length, is provided with pectoral fins so excessively developed that it is enabled to support itself in the air for a few moments.

Among **Cartilaginous Tribes** one of the best known is the Sturgeon; that of the Atlantic coast is from four to eight feet long. The Shark family comprises the Shark, the Saw-Fish (*see its snout in the Museum*), the Torpedo, the Vampire of the Ocean, all of which merit to be called "*Monsters of the deep*". The Vampire, a fish 16 or 18 feet thick, and ten or more in length, has been known to seize the cable of a small vessel at anchor, and draw it several miles with great velocity.

The **Lamprey Family** comprises the lowest forms of vertebrated animals, their internal skeleton being composed simply of a succession of cartilaginous rings; their mouth is circular, and their tongue adapted to move forward and backward like a piston, thus producing a vacuum and enabling the animal to fix itself on solid bodies or on other fishes.

The Lamprey was formerly thought one of the choicest delicacies that could be produced at a feast ; and not long ago (if not at present) the city of Gloucester, in England, retained the ancient custom of offering at *Christmas* a lamprey-pie, as a present to the King ; the fish being at that season in great scarcity, and only to be procured at a high price, becomes, we suppose, a dish fit “ *to be set before a King.*”



# GENERAL VIEW OF THE ANIMAL KINGDOM,—

ITS PRINCIPAL DIVISIONS AND SUB-DIVISIONS.

[The French names of the *Classes*, *Orders*, &c., are given in *Italics*: they are omitted when they are the same in both languages—or the necessary changes are indicated in *Italics*.]

| BRANCHES. <i>Embranchments.</i>                                                 |                                                                                                                                                                                                                                | CLASS.                                                                                                           | ORDERS.                                                                           |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| {<br>VERTEBRATA<br>Warm-blooded,<br>[ <i>Vertébrés</i> ].<br>Vertebrated an'ls. | {<br>Nourishing their young with milk<br>Formed for flying....<br>Grotesque forms, slug-gish habits.....<br>Breathing by gills in water.....                                                                                   | Mammalia ....(forming 9 ord.).....<br>Birds..... 6 .....<br>Reptiles..... 4 .....<br>Fishes..2 groups..9 or..... | <i>Mammifères.</i><br><i>Oiseaux.</i><br><i>Reptiles.</i><br><i>Poissons.</i>     |
|                                                                                 | Cold-blooded                                                                                                                                                                                                                   | Cephalous, or having a head {<br><i>Céphalés</i> .....<br>Acephalous. {<br><i>Acéphalés</i> .. }                 | Naked Mollusea. Ex. Cuttle-fish....<br>Testaceous. Unvivable Shells—Snail.        |
| {<br>MOLLUSCA.<br>[ <i>Mollusques</i> ].                                        | {<br>Winged, after metamorphosis..Insecta .....(forming 7 ord.).....<br>Wingless, 8 legs..... Arachnides... 2 .....<br>With a hard covering..... Crustacea.... 4 .....<br>Bodies formed of rings..... Annulata. Ex. Worms..... | Bivalves—Oyster.....                                                                                             | <i>Huîtres.</i>                                                                   |
|                                                                                 |                                                                                                                                                                                                                                |                                                                                                                  |                                                                                   |
| {<br>ARTICULATA.<br>[ <i>Articulés</i> ].                                       | {<br>Covered with spines.....Echinodermata, Star-fish.....<br>Without head or limbs.....Acalepha, Jelly-fish.....<br>Animals of the coral-reefs.....Polypi, Coral.....<br>Microscopic animals.....Infusoria.....               |                                                                                                                  | <i>Insectes.</i><br><i>Arachnides.</i><br><i>Crustacés.</i><br><i>Annélides.</i>  |
|                                                                                 |                                                                                                                                                                                                                                |                                                                                                                  |                                                                                   |
| {<br>RADIATA.<br><i>Rayonnés.</i>                                               | {<br>Covered with spines.....Echinodermata, Star-fish.....<br>Without head or limbs.....Acalepha, Jelly-fish.....<br>Animals of the coral-reefs.....Polypi, Coral.....<br>Microscopic animals.....Infusoria.....               |                                                                                                                  | <i>Echinodermes</i><br><i>Acalephes.</i><br><i>Polypes.</i><br><i>Infusoires.</i> |
|                                                                                 |                                                                                                                                                                                                                                |                                                                                                                  |                                                                                   |
| [ <i>Intervertébrés</i> ].<br>Intervertebrated— <i>Invertébrés</i>              |                                                                                                                                                                                                                                |                                                                                                                  |                                                                                   |

# GENERAL VIEW

(Continued).

## Subdivisions of Class I.—Mammalia.

2,000 SPECIES.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | PAGE. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ORDER I. Bimana,— <i>nes</i> ;—having 2 hands, 3 kinds of teeth. Man . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                               | 7     |
| ORDER II. Quadrumana,— <i>nes</i> ;—4 hands . . . . . Monkeys<br><i>Singes</i> . . . . .                                                                                                                                                                                                                                                                                                                                                                                                                     | 9     |
| ORDER III. Carnaria, <i>Carnassiers</i> , (three sub-Orders):                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
| 1. Cheiroptera — <i>tères</i> ;— members united, wing-like :—Bats, <i>Vespertilions ou chauves-souris</i> ; Vampires . . . . .                                                                                                                                                                                                                                                                                                                                                                               | 9     |
| 2. Insectivora,— <i>vores</i> ;—molars studded with acute points : Shrew, <i>musareigne</i> ; moles, <i>taupe</i> ; hedgehog,— <i>hérisson</i> . . . . .                                                                                                                                                                                                                                                                                                                                                     | 10    |
| 3. Carnivora,— <i>vores</i> ;—(7 fam.) sharp teeth and claws ;—Cat, <i>chat</i> ; lion ; tiger, <i>tigre</i> ; panther,— <i>thère</i> ; lynx ;—Hyena,— <i>ne</i> ; Wolf, <i>loup</i> ; dog, <i>chien</i> ; fox, <i>renard</i> ; Civet, <i>civette</i> ; Weasel, <i>belette</i> ; martin, <i>marte</i> ; sable, <i>marte zibeline</i> ; ferret, <i>fouine</i> ; otter, <i>loutre</i> ; shunk, <i>mouffette</i> ; Bear, <i>ours</i> ; raccoon, <i>raton</i> ; Seal, <i>phoque</i> , morse, <i>do</i> . . . . . | 12    |
| ORDER IV. Marsupialia,— <i>piaux</i> ;—pouch-bearing ( <i>animaux à bourse</i> ) ; 3 kinds of teeth as in the preceding Orders : Opossum, <i>sarigue</i> , kangaroo, <i>kanguroo</i> . . . . .                                                                                                                                                                                                                                                                                                               | 12    |

- ORDER V. Rodentia, *Rongeurs* ;—no canine teeth ; incisors chisel-shaped, long hind-legs. (5 fam. or 8 according to “ Le Natur. Canadien ”) : Squirrel, *écureuil* ; Rat, mouse, *souris* ; beaver, *castor* ; Porcupine, *porc-épic* ; Marmot, *marmotte* ; Hare, *lièvre* ; rabbit, *lapin*. . . . . 13
- ORDER VI. Edentata, *Edentés* ; no incisors, or no teeth ; sluggish habits ; Sloth, *paresseux* ; armadillo, *tatou* ; ant eater, *fourmilier* ; (fossil megatherium and armadillo). . . . . 14
- ORDER VII. Pachydermata,—*dermes*, thick skin ; no nails or claws, but a single or a double hoof (3 fam.). Elephant, (fossil mammoth and mastadonta) ; Hippopotamus,—*tame* ; rhinoceros, *do* ; tapir, *do* ; Boar, *sanglier* ; Horse, *cheval* ; ass, *âne* ; zebra, *zèbre*. . . . . 14
- ORDER VIII. Ruminantia, *Ruminants* (3 fam.) ;—cloven feet ; head armed (generally) with horns ; masticating their food twice ;—  
Solid horns, *Plénicornes* ; Moose or elk, *élan orignal* ; reindeer, caribou, *renne, r. caribou* ; elk or wapiti, *élaphe* ; deer, *cerf* ; (all these are American) ; giraffe, *girafe* ;  
Hollow hornes, *Cavicornes* ; Antelope or cabree, *antilochevre* ; mountain goat, *chèvre des mont.* ; gazelle (Afr.) Ox, *bœuf* ; buffalo, *bœuf bison* ; sheep, *mouton* ;  
Without horns ; Camel, *chameau* ; (Eu.) Llamas, *lamas*, (S. Am.). . . . . 15
- ORDER IX. Cetacea, *cétacés* ;—general appearance, fish like ; the anterior members replaced by fins. Whale, *baleine* ; sperm-whale or cachelot, *cachelot* ;  
Dolphin, *dauphin* ; porpoise, *marsouin* ; gibbar, *do* ; rorqual, *do* ; narwhal, narval. 16

## Subdivisions of Class II.—Birds.

[An *Exclamation Point* (!) signifies that the specimen may be found in the Convent Museum of Natural History ;—two (!!) that it also passes the summer, or has been seen in the Convent Grounds.]

12,000 SPECIES.

- ORDER I. Raptores, *Rapaces* ; strong hooked bills ; sharp claws ; long wings ; plumage differing in the young and in the adult.
1. Vulture Fam. Vulturidæ, Condor, Vulture ;
  2. Falcon Fam., Falconidæ, Goshawk (*Autor*), Kite (*Buse*) Falcon proper, (*Falcon*) ; Eagle (*Aquila*) Golden E., Bald E. (10 sp. of Eag.) Sparrow-Hawk ! (*Epervier*).
  3. Owl Fam. (150 sp.—40 Am.) Mottled or Screech Owl (*Scop asio*, *scops maculé*) Horned Owl (*Bubo virginianus*, *Duc de Virginie*), Hawk Owl !! (*Surnia ulula*, *Chouette-Epervier*). . . . . 23
- ORDER II. Scansores, (*Grimpeurs*) ; toes in pairs, 2 in front and 2 behind, bill straight, stout, or hooked at the tip . . . . . 25
1. Parrot, (Psittacidæ, *Perroquets*) ;—thick fleshy tongue, gorgeous plumage ;—Australian Parrot !  
Toucans, bill thick and long as their body ;  
Trogon broad and short bill. . . . . 27
  2. Woodpecker F. (Picidæ, *Pics*, 25 sp. in Am.) straight, rigid, and sharp bill :
  3. Golden winged W. ! (*Colaptes auratus*, *Pivart*, *Pic doré*).
  4. Downy Woodpecker !! (*Picus pubescens*, *Pic minule*).
  5. Cuckoo Fam. (6 or 8 sp. Am. 2 Can.) . . . 25

- ORDER III. Insectores, (*Passereaux*), legs short and slender, 3 toes before and one behind; claws long, pointed, and slightly curved.
1. Humming Bird F. (Trochilidæ, *Oiseaux mouches*, 400 sp. known;—N. Am. 6).  
 Rubythroated H. B.!! (Trochilus Colubris, *Rubis de la Caroline*).  
 Emerald colored H. B. ! (from S. Am.)
  2. Creepers (Certhiadæ);—slender bills, insectivora.  
 Creeper—Nuthatch!! (Sitta Canadensis, *Sittelle*).  
 Wren! (*Roitelet*, troglodyte).
  3. Titmice (Paridæ) Black-cap Titmouse!! (Parus atricapillus, *Mésange à tête noire*). 28
  4. Flycatchers (Muscicapidæ or Colopteridæ, *Moucherolles*) beak strong, curved at the point:—  
 Tyrant Flycatcher! (Tyrannus carolinensis, *Tyrant de la Caroline*);  
 Pewee Flycatcher! (Muscicapa fusca, *Moucherolle brun*);  
 Redstart! (M. ruticilla, *M. doré*.)
  5. Chatterers or Waxwings (Bombycillidæ); —bill short; both mandibles notched; head crested.  
 Bohemian Chatterer! (Ampelis garrulus, *Jaseur de Bohême*).  
 Cedar Bird!! (A. cedrorum, *Jaseur du cèdre*, —*Recollet*)..... 29
  6. Swallow F. (Hirundinæ), bill very short; wings long, tarsi short; tail generally forked.  
 White-breasted swallow!! (Hirundo bicolor, *hirondelle bicolore*).  
 Barn Swallow!! (H. rustica, *H. rousse*). Purple martin!! (*H. bleue*)..... 30
  7. Finch & Sparrow F. (Fringillidæ, *Coni-rostres*); short, robust, conical bill; —a

large Fam. variously divided by different naturalists.

Chipping Sparrow !! (*Spizella socialis*, *Pinson gris*).

Song Sparrow !! (*Melospiza melodia*, *Pinson chanteur*).

White-throated Sparrow !! (*Fringilla albicollis*, *Pinson à poitrine blanche*).

Canary Finch ! (Fr. *Canaria*, *Serin*).

Yellow Bird, or Goldfinch !! (*Chrysomitris tristis*, *Chardonneret*).

Black Snow bird !! (*Junco hyemalis*, *Nive-rolle de Wilson*).

Snow Bunting ! (*Plectrophanes nivalis*, *Oiseau blanc*). . . . . 31

Pine Grosbeak ! (*Pinicola canadensis*, *Grosbec des pins*).

Rose-breasted Grosbeak ! (*Guiraca ludoviciana*).

Common Crossbill ! (*Curvirostra Americana*, *Bec croisé*).

White-winged Crossbill ! (*C. leucoptera*, *Bec croisé aux ailes blanches*).

8. Warblers (*Sylvicolidæ*, *Fauvettes*);—conical, slender bill, half the length of the head—fam. numerous, beautiful, singing birds.

Black and Yellow Warbler ! (*Dendroica maculosa*, *Fauvette à tête cendrée*).

Yellow Warbler !! (*Dendroica æstiva*, *Oiseau jaune*).

Nightingale (*Rossignol*, Eu.); Lark (*Alouette*)

Green Warbler ! (*Fauvette Verte*).

Scarlet Tanager !! (*Pyranga rubra*, *Tangura écarlate*).

Summer Red Bird ! (*P. æstiva*, *Roi des oiseaux*).

Trush Fam. (*Turdidæ*, *Grives*);—bill stout; notched near the tip; tarsi rather long.

Robin !! (Turdus migratorius, *Merle*). Wood-  
Trush, (*Grive des bois*).

10. Black bird F. (Icteridæ, *Troupiales*);—  
long bill; stout legs; tail long and rounded.

Purple Grakle! (Quiscalis versicolor, *man-  
ate pourpre*).

Baltimore Oriole! (Icterus baltimore, *Oriole*).

Golden Oriole! (*Oriole doré*).

Red-winged Starling! (Agelains pheniceus,  
*Etourneau aux ailes rouges*).

11. Crow Fam. (Corvidæ); — strong bill;  
broad rounded wings; keen sight.

Common Crow (*Corneille*); Raven, (*Cor-  
beaux*).

Mino bird! (Gracula religiosa, *le Babillard  
pieux*).

Blue Jay! (Cyanura cristata, *Geai bleu*).

Canadian Jay! (Perisoreus canadensis, *Geai  
du Canada*).

12. Shrike Fam. (Lanidæ, *Pies Grièches*), bill  
strong, bent at the point; both mandibles  
notched.

White-rumped Shrike! Am. (Collyrio excu-  
bitorides, *Pie Grièche*).

Loggerhead Shrike! (?) (C. Ludovicianus).. 36

13. Kingfisher Fam. (Alcidinæ, *Alcyones*),  
large head; long straight bill; small legs  
and tarsi.

Belted Kingfisher! (Alcedo, Alcyone, *Mar-  
tin pêcheur*);

Pied Australian Kingfisher! Black and white  
Kingfisher!..... 36

ORDER IV. Gallinacæ, *Gallinacès*: heavy body, short  
wings; bill not longer than the head, and  
vaulted.

Suborder Columbidae; *Colombes*;—basal por-  
tion of the bill covered by a soft skin; hind  
toe on the same level as the others: they  
live in pairs.

1. Turtle Dove, (*Colombe* ; *Pigeon*) ;  
Crown Pigeon of the Indian Archipelago, (of  
the size of a turkey)..... 37
- Suborder Gallinæ,—*naçès* : basal portion of  
the bill hard ; the legs lengthened ; hind  
toe generally elevated.
- Curassow and other large birds of S. Am.,  
India and Australia.
2. Pheasant F. (Gallinæ, *Faisans*) ; cheeks  
partly naked, head surmounted by a comb.  
Pheasant, *Faisan* ; domestic cock — *coq*  
*domestique*, &c.
3. Grouse F. (Tetraonidæ, Tetras) ; tarsus  
feathered to the toes.
- Ptarmigan or White Grouse ! (Lagopus al-  
bus, *perdrix blanche*).
- Canada Grouse, (Tetrao canadensis, *Coq de*  
*bruyère*) ;
- Pinnated Grouse or Prairie Chicken, &c.
4. Partridge Fam. (Perdiciidæ, *Perdrix*) ;  
bare tarsi and red eyelids (40 species Am.)
- Quail ! (Ortyx virginianus, *Caille de Vir-*  
*ginie*)..... 38

ORDER V. Grallatores. Cursores. *Echassiers*.

Sub-order Cursores ; legs long, naked above  
the tarsal joint ; the wings short, unfit for  
flight, body heavy :

Ostrich, *Autruche* ; Cassowary, *Casoar* ; Ap-  
terix, Emu, &c.

The Grallatores live near the water, rarely  
upon dry plains : bill, neck, and legs long,  
bare above the knee, some of them fly to a  
great height..... 39

1. Crane Fam. (Gruidæ, *Grues*) ; head more  
or less bare.
2. Heron Fam. (Ardeidæ, *Hérons*) ; bill point-  
ed acuminate ; claws acute ; the middle toe  
pectinated.
3. Stork Fam. (Cinconidæ, *Cigognes*,) : gen-

eral character like the Herons; bill thicker, and middle toe smooth.

4. Ibis Fam. (Tantalidæ); bill very long, rounded, slender and decurved.

5. Plover Fam., (Charadridæ, *Pluviers*);— bill not longer than the head; neck short; head large; wings when folded, reach beyond the tail.

King or ring Plover! (*Ægialitis semi-palmatus*, *pluvier à collier*, many species).

6. Snipe Fam., (Scolopacidæ, *Bécasses*);— bill longer than the head.

Least Sandpiper! (*Tringa Wilsonii*, *Alouette de mer*); Rails, (*Râles*); the wings and tail very short..... 40

# ORDER VI. Palmipedes. *Palmipedes*.

Bill variously formed; legs short and placed more or less backwards; anterior toes wholly or partially connected by webs.

1. Duck Fam. (Anatidæ proper, *Canards*); upper mandible ending in an obtuse rounded nail; both mandibles grooved..... 41

Swans, (*Cygnus*, *Cygne*); neck very long.

Geese, (*Anser*, *Oies*); bill flattened and broad at the end.

Ducks, (Anatidæ proper, *Canards*); smaller and have a shorter beak than geese, (species numerous).

2. Frigate-Bird Fam., (Tachypetidæ, *Frégate*); long hooked bill, wings very long; tail long and forked.

3. Cormorant Family (Phalacrocoracidæ, *Cormorants*); bill very acute and hooked; feeding on fish.

Labrador Cormorant, (*Graculus Carbo*, *C. du Lab.*); 3 feet long; color bluish black.

Petrel Fam. (Procellariidæ, *Petrels*); seabirds, with long wings, the bill deeply grooved, and lengthened. Genera, the Albatross, the Fulmar, Puffin, &c.

Stormy Petrels, (G. Thalassidroma, *Oiseau de la tempête*); the smallest of web-footed birds, able to contend with the most terrific storms: flying close to the water, they project their feet, and thus have the appearance of walking upon its surface; they are 7 or 8 in. in length. The Stormy Petrel, Mother Carey's Chicken, is less than 6 in. long; gray, sooty brown, black and white.

5. Gull Fam. (Laridæ, *Goënlants*); bill shorter than the head; curved at the tip; wings long and pointed.

Ivory Gulls, (G. Pagophila) are pure white, 18 inches long; others present a variety of colors; (spe. num.).

6. Diver Fam. (Colymbidæ, *Plongeurs*); solitary, keen sighted, wary; formed for swimming and diving.

Pied-bill Grebe! (Podilymbus, podiceps, *Plongeur*), fourteen inches long, wing 5 in.

7. Auk, (Alcidæ); one species is incapable of flight. Genera Penguins, also incapable of flight, Puffins, Guillemots, the Sea-dove or little Auk..... 40

---

## Subdivisions of Class III.—Reptiles. 44

---

ORDER I. Chelonia, *Chéloniens*: Scaly reptiles with a shield upon the back called a *carapace*, connected by bridges to another shield below called a *plastron*.

1. Mud-Tortoise Fam., (Amydæ, *Tortues terrestres*); shell high and arched; eggs elongated, and covered with a flexible shell, (20 Am. species).

Speckled Tortoise, 4 inches l.; Wood T. (4 in.); (Box Turtle, *Tortue à boîte*).

2. Mud Turtle Fam. (Cinosternoidæ, *Tortue amphibie*), small, 3 or 4 in. in length.

3. Snapping Turtle Fam. (*Tortue féroce* (?) large and strong; they snap their jaws at every thing that moves.)

Sea Turtles, *Tortues de mer*.

4. Loggerhead Fam. Cheloniodæ;

Green Turtle (G. Chelonia, *Tortue franche*; weighing 2 or 300 pounds) Tortoise shell Turtle, (G. Eretmochelys, *Caret*).

5. Sphargis Fam., (Sphargididæ) weighing sometimes 2,000)..... 45

## ORDER II. Sauria. Sauriens.

Scaly reptiles without a shell; long body, and tail; large mouth, armed with teeth.

1. Crocodile F., (Crocodilidæ, *Crocodiles*); bulky reptiles exceedingly voracious; teeth unequal, toes semi-palmate.

2. Lizard F., (Lacertinidæ, *Lézards*); head in the form of a quadrangular pyramid; body and tail, long; tongue bifid at the apex and extensible; scales in parallel bands. (See Museum).

3. Iguana F., (Iguanidæ, *Iguaniens*); lizard like in their general appearance, but having a tongue, fleshy and non extensible. Genera;—Common Iguana; Dragon (E. Ind.); Green Lizard (S. Car.); Horned Toad (Tex. & Missouri; see spec. in Mu.).

4. Chameleon Fam. (Chameleonidæ, *Caméléon*); body compressed; skin rough; tail prehensile; eyes large covered all but the pupil; lungs very large. (8 or 10 spe. East-Hem.)

Other Fam.—Skink or Scorpion, (S. Atlantic and Gulf States); Ground Lizard, (U. S.), Glass Snake or snake-shaped Lizard, (Western States) &c. .... 46

ORDER III. Ophidians, *Ophidiens*.

Scaly reptiles;—long; without feet, jaws and palate armed with teeth; tongue long, slender and bifid; eyes without movable lids; lung extending nearly the whole length of the body. . . . . 47

1. Boa Fam. (Boidæ, *Boa*); length 30 or 40 feet.

Boa and Anaconda (S. Am.); Python (Af. and E. Ind.) Wenoma, small, belongs to Oregon.

2. Coluber Fam. (Coluberidæ, *Serpents ordinaires*); Striped snakes; Water snakes; Chicken snake; Black snake; Green snake &c.

3. Rattlesnake Fam. (Crotalidæ, *Crotales*); upper jaw armed with poison-fangs, connected with a gland (near the eye) of fluid poison. (Am.)

4. Viper Fam. (Viperidæ, *Vipères*; belong to the Old Cont.) Sea-snakes; small, but very venomous. . . . . 48

ORDER IV. Batrachians. *Batraciens*.

Body short, thick, covered with a loose skin; tongue long and capable of being protruded with great swiftness. The young are tadpoles, having a tail.

1. Frog Fam. (Ranidæ, *Grenouilles*); adult tailless; fingers and toes free (spe. num.)

2. Tree-Toad Fam. (Hylidæ, *raines ou rainettes*); toes and fingers enlarged; it inhabits trees, shrubs, and plants.

3. Toad Fam. (Bufonidæ, *Crapauds*); body warty above, jaw and palate destitute of teeth.

4. Salamander Fam. (Salamandridæ, *Salamandre*); comprehends Salamanders and Tritons. . . . . 49

## Subdivisions of Class IV.—Fishes, Poissons.

Respiration aquatic, by means of gills; limbs (of higher vertebrates) replaced by fins;— the anterior, called *pectorals*; the posterior, *ventrals*. The vertical fins on the back are called *dorsal*, that at the end of the tail *caudal*; the skeleton sometimes bony, sometimes cartilaginous.

### Bony Fishes, Ossei, —Poissons osseux.

10,000 SPECIES.

ORDER I. Spine-finned Fishes, Acanthoptergians, *Acanthoptérigiens*; — *nageoires épineuses*. (7 fam.; only two noticed here).

1. Perch Fam., (Percidæ, *Perches*; 600 sp.) all wholesome food.
2. Mackerel Fam. (Scomberidæ, *Sombres, maquereaux*).

ORDER II. Soft-finned Fishes, (Malacopterygiens abdominaux, *Poissons à rayons moux*: comprising the majority of fresh-water fishes).

Families, Salmon, *saumon*, trout, *truites* &c. Herring, *hareng*, sardine, shad, *alose*; Carp, *carpe*, gold-fish, *dorade*; Cat-fish, *loche, silure*; Flying-fish, *poisson-volant*, &c..... 51

ORDER III. Soft finned fishes, with ventral-fins, under the pectorals, (M. subrachiens, *rayons ventrales sous l'épaule*).

1. Cod and Pollack Fam. *morue et merlan*.
2. Flounder Fam. *pleuronectes*, turbot, sole, halibut, *plie*.

ORDER IV. Soft-finned Fishes without ventrals, (M. apodes). Ell Fam. *anguilles*.

ORDER V. Tuft-gilled Fishes, (Lophobranches, *branchies en forme de houppes*).

Pipe-fish Fam., Sea-horse, *cheval-marin*.

ORDER VI. Plectonathes; jaws connected (*Plectognates*); includes fishes of strange forms.

1. Diodon Fam. (*hérisson de mer*).
2. Tetradon Fam., Puffer (*le boursouffler*.)
3. Sun-fish Fam. (*Poisson lune*); Trunk-fish ! *coffre*..... 52

## Cartilaginous Fishes, Poissons Cartilagineux.

ORDER VII. Free-gilled C. fishes, *Branchies libres*.  
Sturgeon Fam. Sturioidæ, *Esturgeons*.

ORDER VIII. Fixed-gilled, *à branchies fixes*.

1. Shark Fam., (Squalidæ, Squalæ, *chiens de mer, requins*).
2. Ray or Skate Fam., (Raidæ, *Raie*); torpedo, *torpille*.

ORDER IX. Suckers, (Cyclostomes, *Suceurs*).  
Lamprey Fam., Petromyzonidæ, *Lanproie*.. 53

END OF PART FIRST.





